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MONTHLY REPORT

OF THE

DEPARTMENT OF AGRICULTURE

FOR

JANUARY, 1875.



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# CONTENTS.

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	Page.
STATISTICS :	
Digest of monthly returns.....	3
Yield of farm-crops of 1873.....	4
Prices of farm-crops.....	6
Comparative numbers and prices of farm-animals.....	8
Numbers of farm-animals.....	8
Prices of farm-animals.....	9
The dog warfare.....	21
Tabulated returns.....	25
Extracts from correspondence.....	29
International statistics.....	32
Agriculture in Russia.....	36
Facts from official sources.....	45
Market-prices of farm-products.....	59
Live-stock markets.....	61
Foreign markets.....	62
ENTOMOLOGY :	
Entomological record.....	40
Recent notes on the phylloxera from foreign sources.....	40
MICROSCOPY :	
Microscopic observations.....	42
Cranberry rot and scald.....	42

# MONTHLY REPORT.

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DEPARTMENT OF AGRICULTURE,  
*Statistical Division, January 30, 1875.*

SIR: I herewith submit a report for January, 1875, of the comparative numbers and home prices of farm animals in the several States, with the respective rate of yield and current prices in December of the principal farm products last season. I include, also, an abstract of a plan of international statistics of agriculture and forestry, condensed from a document received through the State Department from the minister of agriculture of Austria; other minor statistics of this and other countries; and a current report of progress by the entomologist, and a report of microscopic investigation.

J. R. DODGE,  
*Statistician.*

Hon. FREDERICK WATTS,  
*Commissioner.*

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## DIGEST OF MONTHLY RETURNS.

The circulars for December relate to yields and prices of the prominent products of the farm for the current year. Those for January inquire the comparative numbers and prices of farm animals. From the October returns of product, as compared with those of the previous year, and the June and July returns of acreage, the yield per acre can be deduced. These direct estimates of the rate of yield in December are, therefore, entirely independent, and furnish a means of verification, and when discrepancies appear, of correction of acreage. There is often a wonderful agreement in the results of these separate returns, and when differences occur they are usually found to result from a low report of aggregate product or a high estimate of rate of yield, or both together. There is a tendency in farmers' estimates to make a good showing of rate of yield, whether from a bias of pride in good culture or soil-capabilities, or from neglect to note the areas of failure or neglected culture; and at the same time a disposition to underrate the total quantity of the crop, especially if it is not a full one. Our correspondents are intelligent, with less of this bias than is usually observed in rural estimates of production, and our aim has been to secure as near perfect impartiality and accuracy as possible.

As to prices, both of products and of domestic animals, it is easy to report actual average prices current in the local markets of the county, so that our statements of average prices for each State, made fairly and carefully by combining county prices in proportion to quantity of local

production, may be relied upon as substantially correct. Indeed, they furnish abundant internal evidence of correctness in the clearness of their mirroring of all results of local causes of fluctuation. These prices are those of home markets, and furnish the only known data for showing what the farmer actually receives for his produce before it passes into the hands of the shippers and dealers.

#### YIELD OF FARM CROPS OF 1873.

*Corn.*—It was said of the harvest of 1873, "there is no State in which corn is a crop of any general importance which reports the yield of last year." The crop of the past year is not only under average, but it is less than that of the previous one. The following comparison gives the figures of the past two years for several of the large corn-producing States :

States.	1873.	1874.	States.	1873.	1874.
Tennessee .....	22.5	16.8	Illinois .....	21	18
Kentucky .....	29.5	25	Iowa .....	29	29.2
Ohio .....	35	36	Missouri .....	23.5	16
Indiana .....	25.6	27	Kansas .....	39.1	12.3

The yields in the New England States are about the same as those of last year; those of the Middle States a little less; and those of the Southern States in most cases show a small reduction.

The loss was occasioned by—1, drought; 2, chinch-bugs; 3, grass-hoppers. The latter came in overwhelming numbers, but were more restricted in range than the chinchies, and, unfortunately for them, came too late to get more than the leavings of their more favored forerunners.

*Wheat.*—The product of wheat is greater in the aggregate than in any previous year, exceeding 300,000,000 bushels. There was an increase of acreage of fully 2,500,000. The estimates of the following States compare with the previous crop as follows :

States.	1873.	1874.	States.	1873.	1874.
New York .....	13.5	15.6	Wisconsin .....	16.5	11.5
Pennsylvania .....	14.2	14.8	Minnesota .....	18.3	14.8
Ohio .....	12	15	Iowa .....	13	11.6
Michigan .....	12.2	14.2	Missouri .....	12.8	13.5
Indiana .....	11.2	12.2	Kansas .....	14	13.3
Illinois .....	13.5	11.5	California .....	13.5	13.5

In general terms, the yield of winter wheat was greater than in 1873, and that of spring wheat less. The line of division between the winter and spring wheat may be drawn from Chicago to Leavenworth and Southern Colorado. About all the spring wheat east of this line is the little produced in New England and Northern New York. California wheat, often classed as spring wheat, and so given in the census, is properly winter wheat. It is sown as soon as rains come to aid in germination, and during the rainy season.

*Other grains.*—The rate of yield of rye is greater in New England, nearly the same as last year in the Middle States, and in the West is not essentially different from the previous record, some of the States making somewhat higher figures, and others a trifle lower. This cereal



is mainly used in the South for winter pasture, and only the seed is required for the next crop. Product, 14,891,000 bushels, 98 per cent. of the last crop.

The Eastern States and New York have increased yields of oats; New Jersey and Pennsylvania show a decrease. The Southern States mostly report decreased yields, the reduction being marked in Arkansas and Tennessee; and in the Western States the decrease is generally heavy. The following figures will illustrate the decline:

States.	1873.	1874.	States.	1873.	1874.
Kentucky .....	24.	14.4	Indiana .....	20.	19.
Ohio .....	27.	20.5	Illinois .....	30.	17.5
Michigan .....	30.2	27.	Iowa .....	33.	30.

The comparative scarcity is everywhere indicated by increase in prices. Product, 240,000,000 bushels, a decline of nearly 30,000,000 bushels.

Barley yields somewhat less than last year in the Western States; in the Eastern, where little is grown, there has been an improvement in the rate of production. Product, 32,704,000, 1 per cent. increase.

*Potatoes.*—The yield in all of the New England States, except Rhode Island, exceeds one hundred bushels per acre; of the remaining States, only New York, Florida, California, and Oregon reach that average. In the West the ravages of the beetle are less marked and the rate of yield generally increased, as the following estimates of yield per acre, in bushels, indicate:

States.	1873.	1874.	States.	1873.	1874.
West Virginia .....	70	76	Illinois .....	40	55
Kentucky .....	55	46	Wisconsin .....	71	87
Ohio .....	85	71	Minnesota .....	99	70
Michigan .....	75	87	Iowa .....	44	63
Indiana .....	56	60	Missouri .....	33	40

The aggregate is 106,000,000 bushels, about the same as the previous crop.

Tobacco gives the smallest aggregates made in many years, both the area in cultivation and rate of yield being small. A special report will be made in the next monthly upon this crop.

*Hay.*—In nearly all of the Atlantic States the yields are greater than last year, and in many of the Central and Western are somewhat smaller. A few figures will serve to illustrate this fact:

States.	1873.	1874.	States.	1873.	1874.
New Hampshire .....	1.05	1.12	Kentucky .....	1.23	.94
Massachusetts .....	1.04	1.17	Ohio .....	1.05	.90
New York .....	1.02	1.30	Michigan .....	1.15	1.00
New Jersey .....	1.03	1.35	Indiana .....	1.25	1.13
Maryland .....	1.00	1.25	Illinois .....	1.25	1.20
Virginia .....	1.00	1.05	Wisconsin .....	1.30	1.10
South Carolina .....	1.10	1.00	Minnesota .....	1.38	1.35
Georgia .....	1.05	1.10	Iowa .....	1.25	1.22

The yield in 1873 was averaged at 1.14 tons per acre; in 1875, 1.16 tons. The product aggregates about 25,500,000 tons, an increase of 500,000 tons.

*Sorghum*.—This crop is still cultivated in all except the New England States, New York, New Jersey, Michigan, Louisiana, Oregon, and California. It is grown merely for its sirup, and more largely in the West than elsewhere. The yield per acre is generally about the same as in 1873, the average number of gallons per acre being thus reported in the following States:

States.	1873.	1874.	States.	1873.	1874.
North Carolina .....	73	68	Ohio .....	86	78
Georgia .....	89	67	Indiana .....	85	89
Tennessee .....	80	75	Illinois .....	61	92
Kentucky .....	73	91	Iowa .....	71	110

Buckwheat same as last year, nearly 9,000,000 bushels.

For further details of these and other crops, the reader is referred to the tables in this number.

#### PRICES OF FARM-CROPS.

*Corn*.—The price of corn in this country is governed by the quantity grown, the abundance or scarcity of other feeding-material having a slight modifying influence. The foreign demand, averaging between 1 and 2 per cent., and reaching in recent years 3 per cent., is too small to be a disturbing element in the market. The commercial assertion, that the foreign value of an exported article fixes its home-price, while partially true of wheat, fails almost utterly in its application to corn. So we usually see the lowest prices of corn when we have the largest products; but an average crop of wheat, with larger foreign crops, may bring lower prices than a more prolific one with deficient harvest abroad. A reference to the records of estimated production and current prices in past years illustrates this truth, and at the same time attests the accuracy of the records. The quantity produced and average prices of recent years are as follows:

In 1868, 906,000,000 bushels, valued at 62 cents per bushel.

In 1869, 874,000,000 bushels, valued at 75 cents per bushel.

In 1870, 1,094,000,000 bushels, valued at 54 cents per bushel.

In 1871, 991,000,000 bushels, valued at 48 cents per bushel.

In 1872, 1,092,000,000 bushels, valued at 39 cents per bushel.

In 1873, 932,000,000 bushels, valued at 48 cents per bushel.

In 1874, 854,000,000 bushels, valued at 65 cents per bushel.

The price in 1873 would have been at least 10 per cent. higher than in 1871; but for the effect of the monetary panic on prices generally. The price at the close of 1872 was 15 cents lower than in 1870, partly from gradual decline in prices and in part because the surplus of old corn was much smaller in the latter year, the combined product of 1869-'70 being 1,968,000,000 bushels; of 1871-'72, 2,083,000,000 bushels; a difference of 115,000,000 bushels. At the present time, a season of continued monetary depression, the average price is 65 cents, 10 cents less than in 1869, when the crop was 20,000,000 bushels greater. In 1871, a medium crop, with a large surplus of the immense product of 1870, and a tendency to lower values generally, caused a reduction of 5 cents per bushel.

The crops of 1869 and 1874 are the shortest for many years, and the prices naturally the highest.



The December prices of the past six years, in the States on the fortieth parallel, are compared as follows :

States.	1874.	1873.	1872.	1871.	1870.	1869.
	<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>
New Jersey.....	82	62	62	75	81	95
Pennsylvania.....	76	60	60	77	75	92
Ohio.....	58	42	34	45	48	72
Indiana.....	51	40	29	37	38	70
Illinois.....	56	32	24	32	35	57
Iowa.....	43	31	18	23	34	50
Nebraska.....	73	28	18	25	36	37

These figures indicate plainly the first and last years of the period as years of scarcity. The present prices are lower than those of 1869, because the product is somewhat less, and on account of the general reduction in values, especially since the summer of 1873. In Illinois, the difference is but 1 cent per bushel, and the rate of yield is less for the present crop. In Indiana, where the price in 1869 was 19 cents higher than now, the yield in 1874 is four bushels more per acre than in 1869. In Iowa the yield in both years was better and the price lower than in the other States, with one marked exception—Nebraska, in 1869, giving 42 bushels per acre, worth 37 cents; in 1874 only 10 bushels, commanding the extraordinary figure of 73 cents. This constant variation of local prices of corn illustrates forcibly the fact that they are governed mainly by *local* demand.

The lowest (State average) price of corn of the crop of 1874 is found in Iowa, 43 cents. The average of Indiana and of Minnesota is 51 cents; that of Kentucky, 55; of Illinois, the great corn State, with a rate of yield unprecedentedly low, 56; Ohio, 58. Those between 60 and 70 cents are West Virginia, 61 cents; Wisconsin, 63; Virginia, 64; Michigan, 65; Tennessee, 68. Between 70 and 80 cents, Delaware, 70; North Carolina, 72; Nebraska, because of chinch-bugs and grasshoppers, stands with Maryland at 73; Missouri, afflicted with insect plagues and drought, 74; Texas, 75; Pennsylvania, 76. New Jersey is the only State making record between 80 and 90. Then comes suffering Kansas, whose crop last year was worth but 31 cents, at 91 cents; followed by Georgia, 92; New York and Alabama, 93; Oregon, 94; Arkansas, 95; California, 98; Florida, 99. The home-growth of South Carolina and Louisiana is worth \$1; Mississippi, \$1.01; and the New England States, whose corn, always higher in price than Western, is held at \$1.10 to \$1.18 per bushel.

*Wheat.*—The average value per bushel of the large crop of 1869 was 94 cents. The next crop was under an average, estimated at 236,000,000 bushels, valued at \$1.04. Another under-medium crop was gathered in 1871, 231,000,000, valued at \$1.25. That of 1872, estimated at 250,000,000 was valued at \$1.24. The crop of 1873 was a full one, and the rate of valuation receded to \$1.15. Three deficient crops in Great Britain made a strong demand for wheat, as is shown by the exports (in wheat and flour) of 182,520,878 bushels in the last period of three years against 136,192,092 bushels of the previous period of three years, an increase of 46,328,786 bushels.

Year ending June, 1868.....	29,717,201	Year ending June, 1871.....	38,995,755
Year ending June, 1869.....	53,900,780	Year ending June, 1872.....	52,014,715
Year ending June, 1870.....	52,574,111	Year ending June, 1873.....	91,510,408

The present crop exceeds 300,000,000 bushels, and the average value has receded to 94 cents. The general European deficiency in 1873

caused heavy shipments throughout 1874, up to September, mainly from our crop of 1873, which will aid in swelling our aggregate for the fiscal year ending June 30, 1874. The abundant harvests abroad in 1874 have caused this decline, which will probably go no further unless a prospect of heavy European production in 1875 should receive general credence.

The following statement of prices in several prominent wheat-growing States, since 1869, will fairly illustrate the range of local prices in those years.

States.	1874.	1873.	1872.	1871.	1870.	1869.
Ohio .....	\$1 04	\$1 31	\$1 42	\$1 26	\$1 09	\$1 03
Michigan .....	1 08	1 35	1 46	1 32	1 08	97
Indiana .....	94	1 22	1 32	1 26	1 00	93
Illinois .....	86	1 10	1 23	1 18	94	76
Wisconsin .....	83	97	1 03	1 11	90	65
Minnesota .....	70	80	83	1 00	83	59
Iowa .....	65	79	85	96	78	52
Missouri .....	83	1 13	1 41	1 16	91	80
Kansas .....	84	1 00	1 42	1 13	86	79
Nebraska .....	60	75	78	90	64	51

As the smallest crop of corn and the highest prices are seen in 1869 and 1874, so the largest product of wheat and the lowest prices occur in the same years. In the above statement of ten prominent wheat-growing States, the prices for each State in these years are lower, without a single exception, than in any intervening year. Those of 1872 are the highest, and, in the winter-wheat States, the next highest prices are in 1873, and, in the spring-wheat States, in 1871. A large yield was obtained in 1873, but the continued foreign deficiency sustained prices, so that the import of United States wheat in that year cost \$3.26 per cwt. in gold, against \$3.25, the cost of the previous year's importation; but the imports of 1864 cost only \$3.07, being mainly from the crop of 1873.

#### COMPARATIVE NUMBERS AND PRICES OF FARM-ANIMALS.

NUMBERS.—A slight increase of horses is reported in most of the States, largest in Nebraska, Tennessee, Missouri, and Wisconsin. In mules, the largest ratio of increase has been made in the following States, in the order named: Illinois, Minnesota, Texas, Tennessee, Ohio, Kansas. In milch cows the increase has been larger than in other kinds of neat stock. In Minnesota an increase of 13 per cent. is reported, and in Nebraska 8 per cent. This tendency is strong in Maine and Connecticut, where the dairy interest is a growing branch of agriculture, the reported advance being 6 per cent. In Wisconsin the increase is 5 per cent.; 4 per cent. in New York, Iowa, California, and Oregon. In other bovine stock, oxen and other cattle, a decrease is reported in all States except Maine, Vermont, Rhode Island, Connecticut, New Jersey, Pennsylvania, Delaware, South Carolina, Ohio, Indiana, Minnesota, Iowa, and Oregon. Texas is reported at 98 per cent. In Kansas and Nebraska many animals have been sold at any available price, from want of feed to winter them. There is some increase in sheep in the New England States, in Texas and Arkansas in the southwest, in Wisconsin and Minnesota in the northwest, and on the Pacific coast. The largest decline has been in swine, in which nearly every State has participated. The aggregate percentages of the farm-stock of last year, as reported by statistical correspondents on the 1st of Jan-

uary, are as follows: Horses, 102; mules, 104; milch cows, 102; oxen and other cattle, 100; sheep, 99; swine, 91.

PRICES.—The average prices and total valuation of farm-animals of the United States, reported in January of each year, has been as follows, since 1867:

Years.	Horses.		Mules.		Cows.	
	Average price.	Total value.	Average price.	Total value.	Average price.	Total value.
1867 .....	\$79 46	\$429, 271, 818	\$92 52	\$76, 094, 954	\$39 77	\$322, 968, 141
1868 .....	75 16	432, 696, 226	77 61	66, 415, 769	36 78	319, 681, 153
1869 .....	84 16	533, 024, 787	106 74	98, 386, 359	39 11	361, 752, 676
1870 .....	81 38	671, 319, 461	109 01	128, 534, 796	39 12	394, 940, 745
1871 .....	78 52	683, 257, 587	101 53	126, 127, 786	37 33	374, 179, 093
1872 .....	73 37	659, 707, 916	94 82	121, 027, 316	31 97	329, 408, 983
1873 .....	74 21	684, 463, 957	95 15	124, 658, 085	29 72	314, 358, 931
1874 .....	71 45	666, 927, 406	89 22	119, 501, 859	27 99	299, 609, 309

  

Years.	Other cattle.		Sheep.		Swine.	
	Average price.	Total value.	Average price.	Total value.	Average price.	Total value.
1867 .....	\$21 55	\$249, 351, 682	\$3 37	\$132, 774, 660	\$5 43	\$134, 111, 424
1868 .....	20 86	249, 144, 599	2 52	98, 407, 809	4 55	110, 766, 266
1869 .....	25 12	306, 211, 473	2 17	82, 139, 979	6 26	146, 188, 755
1870 .....	22 54	346, 926, 440	2 28	93, 364, 433	6 99	187, 191, 502
1871 .....	22 82	369, 940, 056	2 32	74, 035, 837	6 20	182, 602, 352
1872 .....	19 61	321, 562, 693	2 80	88, 771, 197	4 36	138, 733, 828
1873 .....	20 06	329, 298, 755	2 96	97, 922, 350	4 09	133, 729, 615
1874 .....	19 15	310, 649, 803	2 61	88, 690, 569	4 36	134, 565, 526

While the above give the average value for the United States of all kinds of farm-animals, the different local values of cattle may be seen in the following record of a dozen States of different sections of the country, showing the effect of proximity to market, of improvement in breed or condition, in increasing values:

Years.	Cows.					
	Massachu- setts.	New York.	Virginia.	Texas.	Ohio.	Illinois.
1867 .....	\$59 80	\$57 22	\$29 71	\$11 20	\$44 94	\$35 90
1868 .....	67 11	52 54	28 11	10 29	43 07	36 62
1869 .....	67 50	54 14	28 76	9 12	43 00	38 11
1870 .....	57 00	54 11	30 04	10 67	44 77	37 02
1871 .....	59 16	48 51	29 09	12 83	45 09	37 68
1872 .....	39 87	39 53	24 93	14 12	37 36	33 77
1873 .....	41 16	34 00	23 69	13 50	32 18	30 45
1874 .....	45 00	30 50	22 00	15 25	29 57	30 03

  

Years.	Other cattle.					
	Massachu- setts.	New York.	Virginia.	Texas.	Ohio.	Illinois.
1867 .....	\$44 69	\$39 46	\$17 08	\$5 59	\$36 39	\$23 48
1868 .....	46 15	39 79	18 86	5 14	29 58	24 42
1869 .....	54 41	46 67	20 39	5 78	34 04	27 35
1870 .....	49 48	45 91	20 42	6 10	33 99	25 10
1871 .....	44 66	42 27	21 34	7 37	35 34	26 02
1872 .....	35 21	34 10	17 21	8 10	29 50	22 58
1873 .....	39 86	34 05	16 87	7 51	27 71	23 89
1874 .....	39 18	28 88	17 20	8 09	26 30	24 03



As compared with the record of last January, young horses are a little higher; in the Middle States there is a decline in value of horses of all ages; throughout the South the depression is still more positive; in Michigan, Wisconsin, and Minnesota prices of last year are well sustained, while elsewhere in the West they are either stationary or declining. A few examples are given:

	1874.				1873.			
Vermont.....	\$32 20	\$51 00	\$78 30	\$114 00	\$28 60	\$49 33	\$73 06	\$106 80
New York.....	36 54	59 74	88 30	118 11	38 20	63 67	92 54	125 50
Pennsylvania.....	37 02	63 72	92 25	123 20	40 11	68 33	98 08	130 02
Georgia.....	35 00	56 17	80 95	106 20	38 50	61 40	84 20	110 50
Texas.....	13 11	19 77	28 26	44 81	15 40	23 10	34 13	52 00
Tennessee.....	30 12	45 74	63 20	84 75	38 80	56 30	77 50	97 50
Illinois.....	25 78	40 34	59 31	83 44	26 92	41 18	59 94	82 00

The prices of mules of different ages have nearly everywhere declined. They maintain their ascendancy, however, in comparison with the prices of horses of the same ages.

Milch-cows command better prices on the Northern Atlantic coast, and in some of the Western States. In the South they generally yield somewhat to the prevailing depression there. The comparison is as follows in the States mentioned:

	Me.	Vt.	Pa.	Va.	Ga.	Tex.	Ohio.	Wis.	Iowa.	Kans.
1875....	\$39 50	\$36 40	\$35 42	\$22 94	\$18 85	\$13 33	\$30 42	\$26 37	\$26 50	\$20 65
1874....	37 50	35 50	33 25	22 00	18 54	15 25	29 57	26 28	26 50	25 30

The low price in Kansas results from the scarcity of corn and other supplies for wintering milch-cows.

In most of the Northern Atlantic States cattle bear somewhat higher prices. In South Carolina, Georgia, Louisiana, and Texas there is little change; in other Southern States a decline, partly in consequence of scarcity of money and forced sales. In the upper portion of the Ohio Valley prices are well sustained; in the region of drought, chinchcs, and grasshoppers a decline appears.

Prices of sheep are higher in the Eastern and Middle, on the Pacific coast, and in some of the Western States, where unequal conditions of production have disturbed values in this as in other departments of stock-growing.

Prices of hogs have advanced very materially. The reduction in numbers, and the high price of corn, have conspired to make a great advance in prices, as is indicated by this example of prices of old hogs:

	N. Y.	Pa.	Ga.	Ohio.	Ill.	Mo.	Kans.
1875.....	\$15 40	\$17 80	\$6 21	\$12 12	\$10 50	\$5 50	\$6 67
1874.....	13 04	11 20	4 90	9 12	8 50	6 00	8 52

A few notes from regular correspondence are given as indicative of the changes in prices and their causes:

MAINE.—*Piscataquis*: A small increase in the numbers of neat stock; but the price per head is less than last year, owing to scarcity of money.

VERMONT.—*Orleans*: Cows constitute four-fifths of the stock of this county. A few farmers have a few large sheep, excellent for mutton. *Caledonia*: Dairymen, as a rule, raising instead of buying their cows. A falling off in sheep, as butter pays better than wool. *Grand Isle*: Milch cows are unusually high; the same of beef cattle, \$7 to \$9 per hundred, including beef, hide, and tallow.

CONNECTICUT.—*New London*: Since the distemper ceased many horses have been brought here from Canada; also many mules, oxen, and other cattle have been brought from the West.

NEW YORK.—*Erie*: Some farmers are getting rid of their old scrub cows, procuring

others, and keeping them better. *Tompkins*: No mules raised; beginning to import them from the Southwestern States. Farmers believe that they can do their work cheaper with them than with horses. *Queens*: Mules are little raised; but are getting into favor for farm and truck-work. Only two towns raise sheep. Many of our farmers purchase stock sheep from western supplies. *Orange*: For several years the systematic breeding and development of horses has been largely engaged in by some of our enterprising citizens. Large farms are devoted almost exclusively to this business. The horses are bred, trained, and kept or sold solely with a view to their qualities as roadsters, speed being the most desirable quality. These horses frequently command almost fabulous prices. As they are not reared for ordinary farming purposes, they ought not, perhaps, be regarded as farm stock, and have not been estimated at their full appraised value in the list of prices given; if they were, it would raise the price at least 25 per cent. *Warren*: No demand for working-oxen compared with previous years, horses taking their place for labor to a large extent. Sheep sought after for raising lambs for market. *Jefferson*: A prospect that more young cattle and colts will be raised in 1875 than in any year since 1872.

**NEW JERSEY.**—*Warren*: Very few mules raised; brought from the West in large droves, three years old and older, and when broke to the harness worth, on the average, \$300 per pair. A great many are used on the canal. Milch cows in demand and prices better than last year. Lambs were contracted for in May and June for early market at an average of \$6 per head; those not contracted for at that time fell back to about \$4 per head. "Drove-sheep" sold in August and September at an average of \$5 per head. Towards spring a higher price is demanded for ewes coming in. Live hogs have higher price than a year ago.

**PENNSYLVANIA.**—*Northampton*: Good cows of good stock bring \$65 to \$75, while dry cows of ordinary stock will not bring over half that price. *Pike*: Our farmers are beginning to discover the importance of sheep-husbandry; a number of flocks have recently been brought into this county. *Elk*: Under the head "oxen and other cattle" nearly all over three years are working-cattle, which are worth only a little more than their value for beef, owing to the almost total cessation of the lumbering business in this section. *Montgomery*: The number of horses larger than last year, when our number had been greatly reduced by the epizooty. *Perry*: No sale for horses for the last six months. A decrease in milch cows, oxen, and hogs, owing to the short hay-crop. *Clearfield*: The panic times has had the effect to reduce the price of all stock very largely, and the lumbering operations being curtailed to a very great extent, has also effected a great change in prices. *Westmoreland*: Very few mules are now raised; they are generally brought from the Western States. *Indiana*: Horses lower in price than they have been for twenty years; stock-cattle lower in price than usual at this season; sheep and hogs in demand at fair prices, and looking up. *Lehigh*: Horses very plenty, and but few sales. The furnaces now have their railroads and steam-power for nearly all the work heretofore done by horses. More than one-half the iron-ore beds have suspended work, and those in operation work by steam. *McKean*: Three or four hundred beef-cattle have been brought into our county from Ohio. *Washington*: Horses so plenty and cheap that, compared with former years, few are raised. Cattle for beef having brought excellent prices for several months, are now pretty well run off. Hogs, scarce and high. *Armstrong*: Horses are increasing far beyond the demand; prices tending downward rapidly. Sheep and hogs in demand at good prices. *Chester*: Broken oxen worth \$150 to \$200 per pair; steers, \$45 per head; fresh cows, \$60; dry cows, \$30; yearling or summer lambs, \$4.50; stock-ewes, \$3; wethers, \$1.50; Hogs, 9 cents per pound, live-weight. *Fulton*: No sales for horses, colts, or mules. *Erie*: Horses as plenty as one year ago, and about 15 per cent. lower. *Lycoming*: Prices of horses and mules considerably lower than at this time last year, owing to scarcity of money and general business depression; but owing to the very low prices for cattle and hogs for some years past, farmers have raised fewer; consequently they have become somewhat scarce and are higher in price.

**MARYLAND.**—*Baltimore*: Prices of second and third class horses reduced; first-class up to the average at this season. *Dorchester*: Horses and mules are on the increase, but work-oxen and hogs on the decrease, in this county. Farmers are beginning to find out that sheep are paying well. *Washington*: Hogs are not so plenty, and something higher than a year ago. *Cecil*: The demand for the meat of sheep under one year old makes them more valuable than older ones.

**VIRGINIA.**—*Northampton*: A scarcity of hogs and demand for pork. *Bedford*: The number of horses increased 10 per cent., but scarcity of money makes prices low compared with former years. Price of cattle low. Farmers are looking with more favor on sheep-raising. The stock of hogs has depreciated at least 50 per cent., owing to "cholera," which is still prevailing. *Henrico*: Prices lower for all kinds of stock, except hogs, which are high, and milch cows, which are not much reduced from last year. *Pittsylvania*: Live-stock in general increased somewhat, owing to the higher price for tobacco and a slight increase in immigration. *Dinwiddie*: The number of horses increased from two causes—increased area in cotton and the raising of colts



low in price, owing to short crops of cotton and tobacco. A disposition to increase the number and improve the quality of cows, and, in fact, all kinds of stock. Sheep steadily increasing, notwithstanding the ravages of dogs and rogues. *Madison*: Mules increasing and becoming more popular as farm-animals. A greater disposition to engage in sheep husbandry, and sheep improving under better treatment. Hogs scarce. *Prince William*: The financial condition has caused a decline in all domestic animals except sheep. General attention being paid to the improvement of animals—improved breeds of cattle. *Southampton*: Horses and mules not raised; generally purchased from droves. Small farmers are raising oxen for farm-work. Hogs few, owing to scarcity of corn, but farmers are slowly returning to the old plan of raising their own bread and meat. *King William*: But for negroes, hogs would increase greatly. *Spottsylvania*: More attention paid to the raising of sheep. *Bland*: Horses and mules running very low. Hogs scarce and high. *Highland*: Many horses raised for market; not many mules for outside markets; oxen and other cattle more raised than any other stock, and annually driven to the northern and eastern markets in great numbers. Milch cows receive much attention, and are a source of great profit to the county. *James City*: The increase of mules is due to purchases by the lumbermen. Have never seen a dozen mule-colts, all told, in the county. The increase of sheep is due principally to our enterprising men, who have imported quite a large number from North Carolina. *Clarke*: No mules bred in the county; most of those now here are vestiges of the war. *Essex*: Horses and mules are 25 per cent. lower than last year, owing to scarcity of money. *Roanoke*: Oxen not raised to any great extent; a good yoke, well broken, worth about \$80. *Wythe*: No mules raised; some bought annually, to work at the iron-works. *Montgomery*: A marked increase in the number of cattle, sheep, and hogs, and great improvements in breeds. The farmers are generally getting into breeds of Short-horns in cattle, the Cotswold in sheep, Berkshire and White Chester in hogs, and the Norman or some other improved breed of horses. *Bath*: The decrease in cattle owing to a light crop of hay.

**NORTH CAROLINA.**—*Lincoln*: Work-oxen are worth 50 per cent. more than other cattle. *Lenoir*: Very little stock of any kind raised for sale. Nine-tenths of the horses and mules used are brought from Tennessee, Kentucky, and other places. What cows, sheep, and hogs are raised are used on the farms. *Pitt*: Only about 10 per cent. of the horses and mules required are raised here; but this branch is annually receiving more attention. We raise our own supply of oxen and cattle, but none for export. Only a few sheep raised. *Beaufort*: Cattle increasing in number quite rapidly, but little improvement in quality. *Franklin*: Very few horses and mules raised. The supply is kept up by purchases from the West. Hogs are sold by weight, and the price is now 10 to 12 cents per pound. *Davidson*: The short corn-crop last year induced many farmers to kill out their hog stock so closely as to occasion an absolute scarcity this winter. *Mitchell*: The average price given for hogs is for common stock. The Chester and Essex breeds are being introduced, for which we pay, at two months old, \$6 per head. *Wilkes*: The distemper in cattle is the cause of decrease. It has prevailed in several sections of the county during the past year. As the hog-cholera has about disappeared, the stock is increasing. *Ashe*: A decrease in cattle on account of scarcity of hay, caused by drought. *Jackson*: Horses and mules increasing on the farmers' hands for want of a market in the cotton-growing districts. Oxen and cows have decreased, from the fact that they could be sold for cash, and this has been the farmers' only means to meet taxes and other necessary expenses. *Buncombe*: Cholera has diminished our stock of hogs one-fourth. *Caldwell*: Much inferior stock of all kinds, and very little demand for any kind.

**SOUTH CAROLINA.**—*Barnwell*: There are too many dogs for the welfare of sheep, and the negroes think they have a pre-emption right to the hogs and young cattle. *Union*: A very large portion of the horses and mules are brought from other States, principally from Kentucky and Tennessee. From the same States come nearly all the hogs. *Lexington*: The prices of all kinds of stock low, corresponding with the panic prices of 1873.

**GEORGIA.**—*Troup*: More colts this year than since 1866, and there will be more next year than this. More attention to hogs. Few sheep, but a demand for more. *Columbia*: But few sheep and few hogs. The falling off in prices in horses and mules is owing to the fact that factors have sold to the freedmen, without security, low animals at high prices and at enormous interest. The freedmen, after paying landlords rent, have not been able to pay up; short crops, short prices, and extraordinary interest, have put our freedmen "*hors du combat*." The factors have "called in" these animals, upon which perhaps two-thirds of the money has been paid, and they are sold, perhaps at public outcry, to the highest bidder, bringing, of course, but a fraction of first cost. *Camden*: No mules are raised; brought from Kentucky and Tennessee, and used principally in lumbering and the rice-fields. *De Kalb*: When the war closed there was very little stock left in this county. The people have supplied themselves with horses and mules and most of their pork from the West. Some cattle, sheep, and hogs are now raised, and once in a while a colt and mule, but none for market, except as occasionally some



farmer accumulates more than he needs. *Charlton*: No improved stock; none but range-hogs—"piney woods land-pikes." *Forsyth*: Horses, mules, and cattle very low, owing principally to scarcity of money. Hogs, scarce and high, not over one-fourth of a supply slaughtered. *Schley*: Farmers are inclined to raise sheep again, but dogs are a drawback. *Towns*: Horses, mules, cattle, and sheep very low, owing to scarcity of money; horses and mules 25 per cent. lower than at this time last year. *Chattooga*: Raise cattle and hogs for home consumption, and buy mules from Kentucky and Tennessee. *Upson*: Some planters grow hogs enough for their own family consumption, but none for sale; but there are signs of a change; a few have already embarked in a small way in growing colts, sheep, and hogs. *Decatur*: Sheep decreasing in number. Very few whites are permitted to own hogs, except in localities where there are no freedmen.

**FLORIDA.**—*Hillsborough*: The cattle business dying out. A very lively interest in getting improved breeds of hogs. *Gadsden*: A growing attention to the raising of domestic animals, and a perceptible increase in the number of horses. Our home-raised horses are as efficient on the farms as mules, and are thought to be less liable to disease than imported mules.

**ALABAMA.**—*Bullock*: A marked increase in stock of all kinds; planters are giving more attention to this branch of industry, and are becoming more independent. *Corvinton*: The loss of hogs from cholera is large. *Lauderdale*: Owing to the short crop of grain and forage, the price of horses and mules has declined at least 50 per cent., and the number of stock-cattle and oxen has been diminished of necessity in the way of beef. Milch cows have been preserved as a matter of economy. The number of hogs greatly decreased, owing to quinsy, cholera, and want of corn to feed them. *Calhoun*: Not enough horses and mules grown to keep up the number; they are brought from Tennessee and Kentucky. The decrease in the number of hogs is mainly owing to cholera and want of proper feeding. *Franklin*: Prices nominal; the great scarcity of money has caused business to stagnate so much that there are but few sales of anything. *Morgan*: Money being exceedingly scarce, there is scarcely such a thing as an exchange of stock for cash. A good work-horse, 15½ hands high and without a blemish, was recently sold to the highest bidder for \$40, and that I think was about an average of the forced sales. *Limestone*: All kinds very low; horses and mules sold at public sale at \$3 to \$50 per head. A large proportion of the farm-stock owned by the freedmen. *Marion*: Sheep have been diminishing for four or five years; do well when properly cared for. *Wilcox*: Stock of all kinds much cheaper than heretofore. *Blount*: Stock raised for home use; none for market.

**MISSISSIPPI.**—*Grenada*: Cattle and hogs are about the only stock we try to raise, and the depredations of thieves on them have so discouraged farmers that they are about to abandon the raising of them. *De Soto*: The scarcity of money has decreased values to a very low figure. *Amite*: Horses, cattle, and hogs on the increase; mules and sheep decreasing. The prices of all kinds of stock less than last year, owing to large supply and stringency of money. *Marion*: Decrease in hogs owing to hog-cholera; still raging. *Lowndes*: Nine years ago there was an abundant supply of all kinds of stock, cattle, hogs, sheep, and nearly enough mules to supply the demand; now one may ride through the county and not see a dozen hogs, very few cattle, no sheep, empty cribs, poor mules, desolation and ruin on every hand. Those who would raise stock are prevented by the midnight raids of thieves. Succeeded in raising my meat till the last three years, but it costs about 25 cents per pound from stealage. *Madison*: The hogs are yearly decreasing, owing to the great uncertainty of keeping them from being stolen, and to the bad fences not protecting the crops from them.

**LOUISIANA.**—*Rapides*: No stock of any kind raised for sale. *Washington*: A falling-off in stock generally, especially in cattle, owing to the fact that the range in part of the parish has been completely eaten out, and farmers are obliged to sell off all stock they cannot winter; and in hogs owing to the prevalence of disease, by which the number is not half as large as last year. *Morehouse*: Horses, colts, and mules never raised here for market. The prices of horses and mules at least 10 per cent. lower than a year ago; not enough sheep and hogs raised for home consumption, and the number of hogs is annually decreasing. *Assumption*: The bad condition and losses of cattle in Louisiana are due principally to a want of shelter and proper feeding. Diseases here are seldom heard of; cattle die from starvation and exposure. Heavy losses are generally confined to one or two plantations, caused by bad treatment.

**TEXAS.**—*Angelina*: The average price of stock, \$4 per head; cows and calves, \$5 per head, or \$10 for cow and calf; hogs mostly wild, and all depend on the mast for feed; very few sheep. *Caldwell*: The decrease in cattle is chiefly from driving and shipping to various points, chiefly Kansas, Saint Louis, and Chicago. *Cherokee*: But little stock changing hands, and at greatly-reduced prices, owing to the short cotton-crop and scarcity of money. *Dallas*: Among some fine Durhams imported from Missouri, the loss of grown cattle by acclimation was about 50 per cent.; the loss of yearlings was very small, say 5 per cent. Sheep have gone by. A lively interest in the improvement of hogs. We have some fine breeds of Suffolks, Poland China, Berkshire, and

Chester Whites. *Henderson*: Oxen sell at from \$40 to \$50 per pair or yoke. *Rusk*: Many horses and mules have been driven here for sale, and the low price of cotton and scarcity of money have reduced the price fully 25 per cent. *Titus*: Horses of common stock increasing in number; also mules of the better grade, while the Mexican half-breeds are rapidly decreasing. Beef-cattle increasing, but oxen declining, mules taking their place. A rapid decrease in hogs, owing to an unknown disease which causes sudden death. *Kendall*: Increasing interest in raising mules, which are more salable and remunerative than horses. The quality of hogs improving by crossing native with imported stock. They require no feeding; acorns, plums, wild apples, cherries, and grapes being amply sufficient. Milch cows selling for nearly three times as much as they did three years ago. A general disposition to improve the stock by importation. *Houston*: More hogs than cows, and at least two milch cows, one horse, and perhaps one mule, to every inhabitant; few sheep; have never known horses, mules, oxen, cows, or sheep sold under three years old. *Grayson*: As the wild grass of the county is just failing, herds of cattle are being driven out west. Owing to meager prices, horses and mules are accumulating. *Red River*: The number of ponies or common stock makes the average price of horses low. Mules in demand, but scarcity of money reduces the average price. Oxen and other cattle are decreased in number from the shortness of crops and scarcity of feed. Hogs very scarce owing to continued prevalence of cholera. *Williamson*: The increase in horses and mules is owing to the fact that there has not been a demand for them. Work-oxen, well broke, sell readily for \$50 to \$65 per yoke. Beeves over four years old sold last month for \$25 per head. Milch cows not sold as formerly to be driven to Kansas; it is more profitable to keep them. Several flocks of sheep added to the number in the county within the past year. More attention to them than formerly; it has been found that it pays better. Only hogs enough raised for home consumption. *Wood*: Beef cattle killed up very close this year, owing to the high price of bacon and the scarcity of money with which to buy it. Hogs have died to a considerable extent with cholera. *Fayette*: Sheep on the decrease in consequence of more attention to farming. Horses rate low because there are very few good ones in the county. Cattle decreasing in numbers but advancing in price; better breeds being introduced. Grown cattle, of fine blood, brought from the Northern and Western States, do not live long; brought young, they do a great deal better. Hogs scarce, but better breeds being introduced. *Cullin*: An increase of horses raised of over 25 per cent., but the Government has bought largely for cavalry purposes within the past year, which keeps the number down. The decrease in cattle is due to the fact that several large cattle-owners have moved their herds farther west for better range. *Bosque*: At least 25 per cent. of the whole number of beef cattle have been driven off the past year, and the demand seems to be increasing and prices better. There is also a demand for mules and more attention to raising them. But few sheep. *Burnet*: Stock horses have been doing well, the loss of colts being smaller than for several years. Work-horses are sold at an average price of \$80. The number of mules raised increasing, but still insignificant. The increase in cattle owing to the fact that very few have been driven out of the county. The price of work-oxen ranges from \$50 to \$80 per yoke. For the purpose of improving native stock, by crosses with short-horns, several small droves of fine cattle have been imported by enterprising men, but the loss by death is so large as to be somewhat discouraging. *Bee*: During the past year, thousands of sheep have been brought into this from western counties. *Ellis*: No young cattle sold separate; sales are either as stock-cattle, which include cows, calves, yearlings, and two-year-olds, now worth \$6 per head; or milch cows and calves, worth \$20; or beeves, worth about \$13 per head; or work-oxen, \$25 per head. Hogs only raised for home consumption. *Smith*: Increased attention to hogs; improved breeds being introduced. *De Witt*: Raising better horses than formerly, and mules receiving more attention. Cattle decreasing in number, but improving in quality. Sheep attracting much attention; more engaging in raising them; all taking better care of them, and consequently making more money. *Hunt*: The decrease in horses owing to the fact that native stock is gradually giving way to improved breeds; the decline in price owing to general depression in trade. Mules have been improved by finer stock raised and brought into the county. Oxen are being dispensed with, on account of transportation furnished by railroads. Milch-cows and hogs decreasing in numbers but improving in breeds. *Live Oak*: The falling off in cattle owing to the fact of so much shipping and driving to Kansas the past year. The price of stock (and lands) improving. *Nueces*: During the past year the sale of cows for their hide and tallow has been partially discontinued, from necessity. There is scarcely one cow or beef on the range now where there were ten ten years ago. The ruinous business of shipping suckling calves of both sexes to the New Orleans market still continues. The decrease in cattle on the ranges of all who practice this, is making the pernicious results plain to all. Horses have done remarkably well as regards increase, but poorly as regards remuneration, there being no market for the surplus stock. A few mules have been sold, unbroken, at \$40 per head. Except those lost by the great storm in September, sheep have done as well as the most zealous



sheep-raiser could wish. Wool is the great staple grown here. *Bell*: Very few hogs raised outside of inclosures, owing to depredations of bad white and black men. Hogs greatly improved in quality by importations of Poland, China, and black Berkshires. Neat cattle have been stolen, sold, and driven out of the county, until there is not enough left for home consumption. *Medina*: All the prices reported are in gold. *Bandera*: Mules mostly imported. Fat cattle, for shipping, are selling at \$20 per head in coin. *Austin*: The tendency of horse-raisers is to increase the number of mules. Oxen fast disappearing, their place being taken by teams of horses and mules. The number of improved hogs has increased very materially.

ARKANSAS.—*Garland*: Never did we see horses so low. I can buy a horse, saddle, and bridle for \$40, which one year ago would have cost \$150. The great increase in cattle is due to those driven here from Texas. The decrease in sheep, caused by the heavy consumption at Hot Springs; but about 5,000 are coming from Texas, which will stock our county again. *Van Buren*: The decrease in oxen and other cattle owing to the short crops; every farmer sold off all his surplus stock. *Ouachita*: Scarcity of provisions has compelled the farmers to kill all cattle that were fat enough. There have been scarcely any hogs here; they were killed by cholera in 1871. *Fulton*: Owing to scarcity of corn and forage, farmers have disposed of their surplus stock, and consequently all kinds are low in price, particularly cattle and hogs, except fatted hogs, which are scarce. *Izard*: Horses, mules, and cattle as plenty as last year, but no demand for them, and but little to winter them on. Hogs exceedingly scarce. *Pope*: Owing to a light crop, stock of every kind is much lower in price than last year. A great many more cattle have been killed for beef than usual, owing to scarcity of bacon as well as of feed. Hogs have been neglected, but there is now a disposition to give them more attention, and they are increasing. *Arkansas*: A more ready sale for mules than other stock; several droves have been brought in and sold at \$120 per head, cash, and at \$170 on a year's time. The farmers are now raising mules. Cattle are plenty and cheap, owing to the want of hay. The wild hogs are mostly killed, and wild-hog claims are cheap. *Washington*: Owing to scarcity of feed, those that would buy hold over until spring; the seller would take a reduced price for all kinds sooner than buy feed at the high figure.

TENNESSEE.—*Lincoln*: Scarcely any demand for stock of any kind. It probably would not bring more than half of what it would twelve months ago, if sold for cash, owing to stringency of money and scarcity of feed. *McNairy*: Cattle, except milch-cows, have been killed almost by wholesale, owing to the high price of bacon (for which beef was substituted) and the very short corn and hay crops. *Coffee*: No demand for stock of any kind, except hogs, which have been sold at \$7 per hundred, gross. *Bedford*: Decrease in stock, owing to scarcity of feed, which has forced owners to sell off all surplus stock ready for market at reduced prices. *Giles*: Owing to the drought most of our stock and pork hogs were sold off in July—not enough fattened in the county for home consumption. Very little demand for stock, and more on hand than formerly. Blooded cattle command \$50 to \$200; blooded or trotting horses, \$200 to \$5,000; Cotswold and Southdown sheep, \$10 to \$20. *Fayette*: The price of everything is low compared with any year since the war. Many complaints of hog-stealing; it is almost impossible to keep up the stock. *Green*: Bacon-hogs scarcer than usual; more attention to improved hogs. *Perry*: Except hogs and sheep, stock of all kinds is lower, and there is less demand for it than for twenty-five years. *Smith*: The improvements in breeds of sheep is very decided, and a greatly increased interest in sheep husbandry is growing up in the county. *Jackson*: Hogs exceedingly scarce in this county; scarcely a supply of pork for home consumption. Owing to the low prices of pork heretofore farmers have neglected hog-raising. *Woodruff*: The failure of mast for the past two years, with the short corn-crop, has considerably reduced the hog-crop, both in numbers and quality. *Grainger*: Very little market for live-stock of any kind, and all except hogs quite low in price, owing to scarcity of money. The average price of stock-cattle is \$1.50 to \$2 per hundred, gross; some few fat cattle are shipped East and South at \$2 to \$3, gross. Fat hogs, 7 cents, net. *Monroe*: Horses and mules low; no sales, and a surplus on hand. A slow but steady increase of blooded sheep; and if we had a stringent dog-law, sheep husbandry would be greatly increased. The low price of pork for a few years past has caused the decrease in the number of hogs. *Robertson*: No local demand for stock at any price. *Hawkins*: During the first quarter of the past year a larger number of hogs of all ages died than for some years previous. *Gibson*: Farmers were compelled to slaughter their surplus cattle to be able to winter the remainder, and as there is neither corn nor forage to be had except at the most extravagant prices, it is feared that large numbers of those will fall victims to extreme hunger. *Wayne*: Stock of every kind is low down, owing to shortness of crops and a scarcity of money; might say no sale at all. *Blount*: While there is a small increase in numbers of horses and mules, there is a corresponding decrease in price. Quite a decrease in price of cattle. Think sheep will command a higher price within the year, as a woolen factory will be in operation here in a short time. Hogs scarce, and in de-

mand. *Dickson* : The prices of stock of all kinds under that of former years, owing to scarcity of feed ; large numbers of cattle and sheep butchered on this account. *Decatur* : Scarcity of money and of feed makes the prices of stock range low. *Morgan* : More than 50 per cent. of the horses, and 75 per cent. of the mules, are owned by contractors from other parts, now here operating on the line of railroad from Cincinnati to Chattanooga. A larger number of cattle than usual has been slaughtered to feed the laborers on this railroad. *Lauderdale* : Stock hogs, cattle, and horses, low, owing to scarcity of corn and money. *Lawrence* : From present indications, the county will be blessed with abundance of stock for all purposes at the opening of spring.

WEST VIRGINIA.—*Mercer* : Less than the usual number of horses sold, owing to scarcity of money. More mules raised than in any previous year. The number of cattle larger than usual, owing to a lack of purchasers. Hogs scarce, and not much in demand. *Mineral* : Horses more plenty and lower in price than ever known. Sheep scarce and high. Stock-hogs scarce. *Marion* : A decrease in cattle within last two years, amounting to 20 per cent. or 10 per cent per annum, owing to droughts and failure of grass-crops. An overstock of horses ; markets low, and no demand at that. *Lincoln* : A decrease in hogs, owing to cholera. *Grant* : Horses more plenty than usual, and very dull sale. More mules raised of late, but few. The price of cattle a little better than last year. Hogs selling at five cents per pound, gross. Milch-cows plenty, and sale dull. *Jackson* : The decrease in stock owing to drought and scarcity of rough feed. *Ritchie* : The falling off in almost all kinds of stock owing to shortness of the hay-crop. *Gilmer* : Gradual increase in stock, owing to increasing population. *Tyler* : More farmers than usual sold off cattle, sheep, and hogs, owing to scarcity of feed. *Monroe* : Sheep rather scarce, and in demand. Horses plenty, and in very little demand even at the low rates quoted.

KENTUCKY.—*Shelby* : The low prices of horses and mules owing to failure in demand from the Southern and other markets. The falling off in oxen and other cattle is in feeding cattle two and three years old. A large number of sheep was brought into this county from districts in which drought prevailed. *Marion* : Last year there were 1,300 mules fed in this county, for the Southern market ; this year there will be only about 300 ; stock-hogs dying very rapidly with cholera. *Jessamine* : Hogs dying of cholera. *Jackson* : The decrease in sheep is owing to sales to persons in other localities. *Fleming* : A falling off in prices of all kinds of stock, except sheep and hogs. *Cumberland* : Hogs exceedingly scarce, and bringing a high price. *Boyle* : The decrease in hogs largely owing to the fact that high prices for fat hogs have caused the feeding of much young stock. *Owsley* : Stock of all kinds low, owing to scarcity of money. More mules in the county than for years, and no market for them ; not much trade in any stock, except fat hogs. *McLean* : Drought cut short our pasture, which induced a great many of our farmers to dispose of their entire flocks of sheep. The number of hogs greatly reduced by cholera. *Hardin* : Stock-hogs,  $4\frac{1}{2}$  cents per pound ; fat hogs, \$6.50 per hundred. *Breckinridge* : Owing to the light crops, farmers disposed of all the surplus stock they could ; all kinds, except hogs, at very low prices. *Nicholas* : Mules lower in price than last year ; hogs higher, by far. *Graves* : A decrease of 30 per cent. in hogs, caused by cholera. *Metcalfe* : More cattle and sheep shipped in the fall than usual ; the county is nearer drained of hogs than ever known before. *Russell* : Stock of all kinds, except hogs, very dull ; hogs scarce and in demand at good prices— $4\frac{1}{2}$  to 5 cents for stock-hogs.

OHIO.—*Williams* : The increased number of horses owing to a decline in prices and falling off in the Eastern demand ; freight-horses at least  $33\frac{1}{2}$  per cent. lower than a year ago. Hogs sold off close, owing to the high price of corn. *Morrow* : More horses, dull sale, and reduced prices ; and the same of mules. *Henry* : Increased price of corn induced farmers to sell short of hogs. Hogs of 100 pounds and upwards have sold freely, live weight, for 5 and  $5\frac{1}{2}$  cents per pound. *Perry* : Only first-class horses, which are scarce, bring a good price ; few buyers for others at low prices. Hogs nearly all killed or sold, owing to the shortness of the corn-crop. *Tuscarawas* : The high price of feed depreciates the price of stock. *Hancock* : Not half enough of stock to consume the immense amount of corn raised in the county last season. *Delaware* : Owing to scarcity of feed farmers have sold their stock quite close. *Crawford* : Horses and mules cheap ; no demand for export. Sheep less in number and lower in price. Very few hogs alive in the county, except breeding-sows and boars ; pork being high and corn cheap, as many were fattened and sold as possible.

MICHIGAN.—*Wexford* : Young cattle high ; cows very high. *Lenawee* : We have many horses that are worth from \$200 to \$1,000 each. *Menominee* : Horses and cattle not raised to any extent ; the high price of hay and grain precludes it. *Tuscola* : The decrease in horses and working-oxen owing to a decrease in the lumber business and the substitution of cattle for horses on the farm. *Sagamore* : The price for horses has reference to the common class of the county. There is another class belonging to the lumber-trade, numbering some hundreds, weighing 1,400 to 1,700 apiece, and costing \$200 to \$1,000 per pair. Reports show an increase in the number of sheep, but I find that most of the large farmers have gone entirely out of the business.



INDIANA.—*Perry*: Beef-cattle, \$3 net; hogs, \$3 net. *Jennings*: Stock-hogs worth 5 cents gross. *Franklin*: Owing to scarcity of hay and high price of corn, horses and mules can be sold only at ruinous rates; and the prices of all kinds of stock to be kept over seriously affected by the same causes; no market for such. *Floyd*: Horses, mules, and cattle lower than for years. Hogs have sold at \$4.75 to \$7.20 per hundred. *Crawford*: No sales for horses and mules; beef-cattle have ranged very low. After consulting with many sheep owners and dealers I have placed the percentage at 60; but sheep have been in such demand for mutton and buyers so plenty that, in my own part of the county, I am sure that 40 represents the per cent. *Wells*: Mules, not raised until within the last few years, are being bred to a considerable extent. Sheep are raised for both wool and mutton, and are ready sale at all times. Hogs are our main crop, and, having an extra corn-crop, we have sold our hogs at good prices. More attention to breeding good stock of all kinds; a marked improvement in the last two years. Farmers do not now sell their calves for veal; they find it more remunerative to keep them until two or three years old. *Washington*: Owing to the high price hogs commanded, \$5.50 per hundred, they were sold off very close. About 6,000 have been sold by our farmers to the pork-packers at Louisville, Ky., and New Albany, at an average of about 6½ cents per pound gross at our depots. *Pozey*: Of mules, which are taking the place of work-horses, the number raised and now in use is greater than last year. Less number of cattle raised and fattened than last year, owing to the high price of feed. More attention to improved milch-cows; also to sheep, the quality of which is already greatly improved; but hogs have been more improved in quality than any other stock. One farmer, James Cole, delivered in our market this season 60 hogs, averaging 501½ pounds net; William Warren raised here and sold one weighing 940 pounds gross—777 pounds net. *Orange*: Hogs have sold at 6 to 7 cents gross; and every hog big enough to grunt or squeal has been ordered to the front and captured. Cattle in moderate demand at 2 to 4 cents per pound gross. No sale for horses or mules. *Noble*: Not much sale for any stock except sheep and hogs. *Gibson*: Fewer stock-hogs than for several years. *Dearborn*: The high price of corn and the ready market for hogs have thinned our usual stock very much. *Boone*: The stock market, except for hogs, is duller than for many years. Horses, mules, and the lower grade of cattle not in demand at all. Feed is high, and very much stock will consume its value in feed before May. *Huntington*: Hogs run from \$1 to \$5 per hundred pounds. *Hamilton*: Very dull market for horses, mules, and cattle. Cattle lower than for years, and grain and feed so high that there is no money in feeding any stock. Stock-hogs rule high, 6 to 7 cents gross. *Clay*: Stock-hogs are being industriously hunted up at 5 cents per pound. *Tippicanoe*: We have as great a number of every variety as at any former period, except of mules, which, owing to the condition of the Southern market, have been steadily declining since the war. The prices of horses and mules are merely nominal, as it is almost impossible to effect sales at quotations. Sheep are much sought for, and the prices high; hogs range from \$4 to \$6 (according to quality) per hundred, and purchases hard to make at that. *Steuben*: Not more than one-fourth the number of hogs in the county in 1874 that there were in 1873; price in 1873, \$3 to \$3.50 per hundred pounds; in 1874, \$6 to \$6.50.

ILLINOIS.—*Morgan*: Horses not much in demand; mules sell better; not as many cattle feeding as usual. *Warren*: The sheep have been driven west to Colorado and California, leaving no large flocks in the county. The Norman horses are being very generally introduced for heavy draught; the half-bloods are proving altogether superior to the native stock. *Vermillion*: The price of all kinds of live-stock has been reduced fully 20 per cent., owing to scarcity of feed. Feed of all kinds 33 to 50 per cent. higher than usual. *Scott*: The decrease in cattle is owing to the cheapness at which they can be shipped in here from the West. *Lawrence*: Stock-hogs very scarce. *Edwards*: Owing to the high price of pork, everything available has been fattened, and no store-hogs are left for sale. Pork has been \$6.50 gross, \$8 net, and weighed heavy. The county is remarkable for fine-bred hogs, both Berkshire and Chester; Berkshire preferred. *Putnam*: All kind of stock, except hogs, in excess of one year ago. Hogs sold very short, owing to the short crop of corn. *Cass*: Horses dull of sale; mules more in use than formerly. There are, not including yearlings and younger, 4,000 cattle in the county feeding for beef. The raising of hogs would pay better than any other stock but for hog-cholera, of which hundreds die every year. *Carroll*: Several Norman stallions introduced into the county have somewhat increased the average value of colts, and heavy-draught horses are now being bought up for the Eastern market at an average of \$250 per span. *Burrow*: But few sheep. *Winnebago*: Good common work-horses are worth \$100 per head. *Shelby*: The ravages of cholera among hogs the past two years have been so great that many farmers are changing from hogs to cattle. The Cotswold sheep have been lately introduced, and are preferred over all others. *Ogle*: Prices of horses and mules nominal; but few selling. Dull market for oxen and cattle. Fat hogs higher in price, but stock-hogs lower, owing to the appreciation in the price of corn. *Johnson*: More mules raised than horses, but mules are exported to a much greater extent; hence the decrease in number. Little attention

to raising sheep. Our farmers sold all the hogs that were salable, the price being high and, except breeding-stock, only pigs are left. *Cumberland*: Very few horses and mules selling. Cattle of all kinds quite plenty, and very low in price. Young hogs for stock rather scarce; average price, \$4 per hundred. *Saint Clair*: Work-oxen have become almost obsolete; do not know of a single yoke used on the farm. *Mason*: Owing to the high price of corn and the prevalence of cholera, hogs have been shipped out of the county more than usual. *Stephenson*: Fifty per cent. less sheep in the county than ten years ago.

WISCONSIN.—*Waupaca*: Live hogs selling at 6 to 7 cents per pound. *Juneau*: Live hogs worth 5½ cents. *Jackson*: Cattle quite plenty; market depressed, but heavy working-oxen range from \$100 to \$200 per yoke. The hog-crop is short, and coarse feed worth more per pound than wheat. *Vernon*: Quite a depreciation on cattle; working-oxen cheap and beef quite low, bringing only 2½ to 3 cents on foot in the nearest market. Fat hogs in demand; bring readily 6 cents, live weight. Little trade in horses and mules. *Portage*: As in all new counties, horse-teams are steadily on the increase and ox-teams on the decrease. *Douglas*: Hard to fix on a cash price for anything; money is so scarce that people are ready to take just what they can get in cash. *Dunn*: Stock of all kinds low and dull of sale, owing in part to the high price of fodder and coarse grains. *Richland*: Live hogs, \$6.50 per hundred to the growers. *Green Lake*: Few sales; none buying except at low figures, and none selling except from necessity. Sheep and hogs the only live-stock in demand. *Pierce*: Beef low; pork, good price, \$7 per hundred. *Jefferson*: Cattle, especially for beef, lower, and hogs higher than usual. *Green*: Hogs have saved the farmers of this country.

MINNESOTA.—*Sibley*: The failure of the oat-crop has lessened the price of horses. The failure of crops for the past two years accounts for the increase in cows. Attention is more turned to stock-raising, and stock of all kinds would be much higher than now were it not for the scarcity of money. *Winona*: No live hogs in the market. *Isanti*: No demand for horses, work having stopped on all the railroads, and but little lumbering. For the same reason oxen and beef-cattle are very low in price. Sheep in good demand. *Blue Earth*: A stagnation in the horse-market for the past six months; horses plenty and very cheap; the same is true of cattle, sheep, and hogs. *Mower*: Owing to the high price of pork hogs have been nearly all killed; scarcely enough stock-hogs left for the wants of next season. *Lyon*: The large per cent. of increase is owing to the fact that the county is new and we have had a large immigration during the past year. *Steele*: The market for horses and mules dull; cattle have declined in value and are very slow of sale for ordinary grades. Though dairy products are in great demand, with the price of wheat so low, cows have not quite kept up to last year's prices. Improved breeds of all kinds of stock are working into general use, though not rapidly. *Renville*: The price of stock of all kinds except hogs is much lower than last year, owing to short crops. Not hogs enough raised to supply the home demand. A decrease in cows, oxen, and young stock, owing to the fact that they have been bought up for the Iowa market. *Meker*: The low price of wheat has induced many to turn attention to stock-raising. *Kandiyohi*: Few mules raised; a good pair would bring \$400; sheep decreasing every year. *Rock*: Scarcity of corn has lessened the percentage and price of hogs.

IOWA.—*Washington*: The high price of corn and pork has induced farmers to sell off both corn and hogs closer than usual, and consequently to fatten fewer cattle. *Poweshiek*: No sales of horses. *Guthrie*: A great many hogs have died of cholera, so called; many lost all they had. *Scott*: Oxen but little sold, probably not twelve yoke in the county. For the past few years sheep husbandry has received more attention by a few men, who make it a specialty. They are not kept, as a general thing, by the farmers. The decrease in hogs is owing to the extreme high price in December, when all fit to kill were sold. *Johnson*: Live hogs selling at \$6 to \$6.30 per hundred. Shippers offering \$5 per hundred for No. 1 steers. *Cherokee*: Hogs as high as \$6 per hundred, gross. *Cass*: Decrease in hogs owing to a fearful scourge of hog-cholera; some of our farmers and feeders have lost as many as 400 each, and from that all the way down to lots of 8 and 10. No treatment seems to be of any avail. *Polk*: Cattle lower in price than at any time since the war, owing mainly to the great swarms of Texas cattle constantly being shipped into this section. Hogs higher than usual. *Harrison*: Increase in cattle, owing to the number brought in from the grasshopper regions of Kansas and Nebraska. Every pig that can be got into market being sold, yet many more hogs in the county now than at this time last year, owing to immigration. *Ida*: No sheep in this county last year; 150 now. Sheep seem to do first rate on this rolling prairie. *Sioux*: The decrease in hogs owing to the entire destruction of the corn-crop by grasshoppers. *Marion*: One-third of the fat hogs yet in the hands of feeders; parties holding for 6 to 7 cents per pound gross. *Des Moines*: Prices of all kinds of stock receding. Work-horses very low. Six cents, live weight, has called out all the available hogs for meat, and the shortness of the corn-crop has stimulated the sales. *Hancock*: Mules growing in favor for farm use; more profitable to raise than horses. A great desire to increase the number of cows, and the raising of stock receiving a good share of atten-



tion. *Buchanan*: Difficult to fix the prices of horses and mules, because so many are sold at forced sales. Hogs much advanced in price. *Madison*: The number of cattle being fed for spring market about 40 per cent. less than last year, and the same decrease in hogs.

**MISSOURI.**—*Polk*: Owing to short crops, farmers have sold all stock which could be put in condition to sell. *Platte*: Horses and mules much lower in price than I have ever known; no demand for them at any price. Milch-cows in demand. Owing to scarcity of corn and the high price of hogs, all that could be made to reach 150 pounds have been sold to packers; consequently, stock-hogs are scarce, and meet with ready sale at 4 cents gross. *Jefferson*: The loss on hogs from cholera has been great; all killing hogs and fat. Within 4 miles some 64 were well one day and dead the next. *Maries*: But few horses and mules sold, the market being very dull. Scarcity of grain and feed has compelled farmers to sell cattle and sheep at very low figures, being the only stock they could sell, except pork-hogs, which have borne a good price, 4 to 6 cents gross. *Chariton*: Owing to the scarcity of corn, most of the hogs have been sold into more favored counties and other States. As the hay-crop was good, very few horses, mules, or cattle have been sold. Prices rule low, owing to a scarcity of money. *Beuton*: The extraordinarily low prices of stock are owing to the destruction of the corn, oat, and hay crops by drought and chinchies. *Stone*: Twenty per cent. of the hogs have died of cholera and staggers. Horses, mules, and cattle very low; no demand for the former, and but little for the latter. *Shelby*: Horses, mules, and cattle selling low, owing to scarcity of money. *Ray*: The reduction in cattle and hogs caused by light crops for the last two years. *Caldwell*: The decrease in all kinds of cattle owing to drought and short corn-crop. All salable cattle have been sold, making 25 per cent. decrease in the whole. No sale for horses. Hogs of all kinds sold off very close; scarcely any left but sows and small pigs. *Daviess*: All stock depreciated in price, owing to the short crops, followed by drought. Nearly all hogs not killed for home consumption shipped out of the county as stock-hogs; not corn here to winter them. *Bates*: We lost everything last fall by chinch-bugs and grasshoppers, and all kinds of stock are down to the very lowest notch. *Randolph*: All kinds of stock scarce for want of feed. Cattle and hogs large enough to be fed for market nearly all shipped from the county. Considerable demand for horses and mules. *Laclede*: Stock of every kind, except hogs, very low, owing to scarcity of money. Last year we lost heavily in hogs by diseases, and have not yet recovered; not enough in the county for home use. *Howard*: Owing to the very short crop of corn a large number of farmers could not winter their hogs, but were compelled to sell them. *Clay*: But little feed, and not much stock to feed. *Callaway*: The failure of the corn-crop has reduced the number of cattle and hogs very much. Horses plenty, because the demand is light. *Putnam*: Stock meets with a ready sale here, and farmers are having a good time of it. *Vernon*: Great falling off in prices of stock, owing to a scarcity of money. Thousands of stock hogs sold into Iowa and Illinois on account of short crops. *Johnson*: No sales of horses for shipment; prices very low. Price of mules higher than horses, as it costs less to keep them. Nearly all cattle that could be spared have been sold. Very few other than cows over three years old left in the county. *Dent*: Value of stock of all kinds depreciated by bad condition, owing to scarcity of feed. *Adair*: Most of the farmers who heretofore raised horses are raising mules. *Barton*: Failure of corn caused nearly all the hogs to be shipped out of the county. *Carroll*: The decrease in cattle and hogs caused by the short corn-crop.

**KANSAS.**—*Mitchell*: Stock of all kinds of but little value, there being no money to invest in it and nothing to feed on—especially horses and hogs. Pigs under six months old may be had for the asking; but who has feed for hogs? None. *Ottawa*: Owing to scarcity of feed the price of stock has ruled low, especially cattle and hogs, more especially hogs. *Marshall*: The diminution in cattle and hogs is owing to sales in consequence of the failure of the corn crop. *Cowley*: Every kind of stock low, owing to scarcity of feed. *Cherokee*: Horses very low, owing in part to scarcity of feed, but many are disposing of their horses and investing in mules, which are less subject to disease and better adapted to farming on short allowance of grain. *Anderson*: Very few hogs can be carried through. *Sedgwick*: Some losses in horses and hogs for want of feed. *Osage*: Horses at extremely low prices; also cattle are scarcely salable at all. Nearly all hogs sent out of this part of the State to keep them from starving to death. Over 30 horses have died of starvation within the last six weeks. *Nemaha*: Only enough hogs are wintered to raise another stock from. *Lincoln*: A falling off in oxen and cows, owing to the passage of a strict cattle law, in consequence of which some heavy dealers have driven their stock beyond the settlements. Hogs scarce, owing to the failure in the corn-crop; hundreds have been given away to keep them from starving. *Leavenworth*: Cattle were sold very close, owing to short feed. Hogs, all or nearly all, sold off on account of scarcity of corn. *Jackson*: Farmers generally raising mules more than heretofore. Oxen and other cattle sold off to Iowa and other places, owing to scarcity of grain; also hogs. *Franklin*: Horses low in price and condition, owing to the almost total failure of the corn-crop and no buyers. Many work-

horses are not fed one ear of corn per week, and must die before spring. Stock hogs have been sold to more favored localities, and many of those having pigs have given them away to whoever would take them. *Johnson*: But few hogs left. *Jefferson*: Nearly all the hogs shipped; stock low, owing to scarcity of money and feed. A continual decrease in the number of sheep kept. With our system of open fences and with the depredations of dogs and wolves, farmers do not find them profitable. *Cloud*: Farmers turning their cattle off and going into sheep husbandry as fast as possible, for the reason that we have a large per cent. of high rolling-land covered with buffalo and bunch grass, on which sheep do well the year round. The decrease in hogs owing to the total failure in the corn-crop. *Atchison*: Owing to the failure in corn, cattle have declined in price more than other stock, except hogs. Many pigs have been killed to save feed. *Miami*: Owing to scarcity of crops and money, cattle are very low in prices, and a great many have been taken to the fruitful regions of Iowa for wintering. *Wilson*: The very low prices of all kinds of stock owing to a failure in all crops except wheat. *Labette*: Scarcity of corn and oats has depreciated the prices of all kinds of stock 33 per cent. Several have fattened their hogs on wheat altogether, and many are feeding wheat to horses. *Graham*: Hogs are at a high discount, as we have no grain to feed except wheat and not enough of that for bread. Do not know of a sheep in the county, though the climate is peculiarly adapted to wool-growing. *Clay*: Quite an interest starting up in the sheep business. *Shawnee*: Decrease in cattle and hogs owing to drought and grasshoppers. *Sumner*: Hogs nearly all sold or killed; worth nothing unless fat and nothing to fat them on. Everything down in price. *Doniphan*: Scarcity of corn has induced farmers to send their stock to places where there is more feed. Probably as much stock owned in the county as formerly. *Butler*: Hundreds of hogs killed last fall to get them out of the way, there being nothing to feed them. Horses are beginning to die for want of grain; eastern horses will not live through the winter on prairie hay. *Chase*: Failure of corn has taken most of our hogs out of the county; no sale for horses; cattle dull. *Montgomery*: The shortened corn-crop has reduced the number of cattle 20 per cent. and of hogs about 75 per cent. *Shawnee*: The large number of "Indian ponies" brings the average price of horses very low. The great reduction in oxen and other cattle was caused partly by the death of such stock last winter and partly by the destruction of the corn-crop. Most of the cattle over two years old have been driven to States farther east—the greatest number to Iowa. Hundreds of pigs were knocked in the head to keep them from starving.

NEBRASKA.—*Dixon*: The decrease in hogs owing to the failure of corn-crop. *Lincoln*: Our milch cows, being natives, (not Texans,) average higher than steers. A fresh milch cow would bring \$55 to \$60. But few sheep, and none for sale at any price. *Richardson*: Stock hogs decreasing owing to scarcity of corn. No fattening cattle; prices low and no sale. *Boone*: The low percentage of hogs owing to the destruction of corn-crop by grasshoppers. All hogs that would sell were sold early in the season at 2½ to 3 cents per pound to turn in with fattening steers in Iowa. In these grasshopper regions all the pork made was made on wheat. *Jefferson*: Stock of all kinds very low; hard matter to get money for it at any price. Owing to loss of corn-crop hogs are either sold or given away. Many farmers have killed off their entire stock, though not half fattened. *Pawnee*: The great decrease in hogs caused by the failure in corn. *Merrick*: No feed to keep hogs. *Nemaha*: Owing to failure in corn, cattle and hogs have been run out very close, and the farmers are now feeding wheat largely. Not 50 head of cattle being fed for beef in the county, while usually individuals feed that number. A great desire to sell horses and scarcely any demand. *Antelope*: From scarcity of grain horses have depreciated in value, but mules are in demand, and working-oxen have appreciated in value 25 per cent. Milch cows in demand, but owing to scarcity of money slightly depreciated in price. Sheep, of which 900 were introduced the past season, are doing finely, and will increase rapidly. The destruction of the corn-crop has materially lessened the number of hogs and slightly their value.

CALIFORNIA.—*Sutter*: Spanish horses on the decrease; average price, \$10. Good, large American horses bring from \$120 to \$200, and are in great demand. Wild or Spanish cattle, formerly so plenty, are on the decrease, while there has been a large increase of short-horn cattle and milch-cows. *Plumas*: The amount of neat stock, and particularly dairy-cows, constantly on the increase, for the reason that this is the surest and most profitable branch of husbandry in this locality, except sheep-husbandry. *Alameda*: For a few years horses have been increasing beyond the demand for farm or team, and fancy and fast horses are the only ones that are paying for raising. Cattle have also increased beyond consumption; and there being no outlet for them on this coast, prices range low. Sheep doing better in price than either horses or cattle. The abundance of feed has stimulated large numbers to go into the growing of wool. Hogs selling at good prices, in consequence of short crops reported in some of the States on the Mississippi. *Placer*: Cattle rule low; sheep hold their own; while hogs, which have fallen off about 33½ per cent., command much higher prices than one year ago. *Contra Costa*: Farm-work horses, small size, sell for \$75 to \$100; medium size and heavy, \$150 to \$200; any way stylish and large, \$200 to \$450; the same of mules. *San*



*Bernardino*: Cattle, cows, and hogs slowly diminishing, as more attention is being paid to the raising of sheep, which is found more profitable.

**OREGON.**—*Grant*: A slight reduction in the price of horses of the same quality, but, owing to improvement in bloods, the average is as high as one year ago; considerable reduction in the price of oxen and other cattle; 10 per cent. in the price of cows, and a decrease in the value of hogs, owing to outside competition. *Clackamas*: Railroads and steamboats have done away with the necessity of so many horses. *Tillamook*: Marked improvement in the stock of horses; prices tending upward. Market dull for cattle, and few sales. A large increase in milch-cows, dairying being the most profitable business in our county. Graded sheep do the best, and there is a marked improvement over last year. *Douglas*: The great decrease in horses owing, in part, to the fact that farmers are raising less, finding sheep more profitable, and, in part, to the many that were bought up last spring for military purposes. The increase in cattle occasioned by no demand for them the past year. Sheep in active demand; very few for sale until after shearing. The low price of grain of all kinds creates quite an active demand for hogs.

**COLORADO.**—*Rio Grande*: Stock-raising in this county on a large scale no longer a paying business; therefore cattle are decreasing. Horses and sheep are increasing. Sheep pay best. The fleece of the Mexican sheep is improving, both in weight and quality. *Douglas*: The county was divided in 1874, and a new county, Ebert, formed, taking three-fourths of the oxen and other cattle and one-fourth of the cows. As many sheep have come into the county as the new county took.

**UTAH.**—*Box Elder*: All cattle, especially beef, are low in price. Montana Territory produces cattle in great abundance for both Eastern and Western markets, which affects our market unfavorably. *Salt Lake*: The value of horses, cattle, and cows has been rapidly on the decrease the past year. Great numbers of wild horses have been brought here from California and sold as low as \$50 per span. They are tough and hardy, and, when crossed with blooded stock, make the most serviceable animals for this region. Large quantities of beef have been shipped here by rail, which has caused the decline in cattle. *Sevier*: Mules not raised; increase in other stock from increase in population, which is probably 25 per cent.

**WASHINGTON.**—*Thurston*: Cattle very low; beef 2 to 5 cents; horses low; hogs advancing in price; bring 6 to 7 cents per pound. No sale for cows. Sheep higher than last year.

## THE DOG WARFARE.

The warfare of dogs upon sheep still continues; the direct losses are a million of dollars annually, in wool and mutton, and, indirectly, even a larger sum in the repression of sheep-husbandry, and the consequent waste of a large percentage of the annual crop of grass; a crop more valuable than that of cotton or corn, throughout the Southern States and elsewhere in all dog-cursed sections of the country. The canine warfare is a badge of vagabondage, an indication of savagery and lawlessness inconsistent with a progressive state of agriculture. In communities where "every poor man keeps a dog, and every very poor man keeps two," the average legislative candidate dares not pledge himself to vote for a dog-law. Until recently, only a few States in which wool-growing is prominent had dog-laws, which is equivalent to saying that the ideas on which our agriculture was based were primitive, and its rural processes crude. Laws are now in force in a large proportion of the States, and in several are quite efficient and protective. Farmers are agitating for the passage of such laws in the remaining States. In the Southern States the insane pursuit of cotton to the social ostracism of every one who dared to produce meat or grow fruit, for many years kept sheep-husbandry at the lowest ebb, while it was known by all intelligent men not stricken with the prevalent mania that millions of acres of succulent grasses were annually lost in decay in all the southern prairies, the open pine-forests, and the elevated glades of that sunny region. There should at once be enacted there stringent laws for protection against the ravages of dogs, quadruped and biped, black and white. The result would in twenty years appear in a degree of

wealth to which this section has never before attained, for it would revolutionize and vitalize the entire agriculture of this section.

We have repeatedly attempted to gather some of the items of loss by this scourge. In our stock-returns of this month there are reports from five hundred counties, with some losses reported, of course not all occurring, but they make an aggregate of 79,285 sheep killed during the past year, in counties holding one-fourth of the territory, and nearly one-fourth of the sheep of the United States. In twenty-four counties in Ohio, 6,517 are reported killed, or four-tenths of one per cent. of the sheep. This is probably not more than one-half the real number, as the State report of Ohio for 1873 makes the loss for that year 35,440, or seventy-seven hundredths of one per cent. of total numbers. Besides this, 35,124 were injured in that year by dogs, entailing a loss of \$47,210 in addition to \$110,044 for those killed outright.

It is very evident that the real losses by dogs amount to one and one-fourth per cent. of the value of the sheep in Ohio, and more than two per cent. throughout the country, or \$1,000,000. The percentage of loss is vastly greater in States where no efficient laws exist. As far as the territory is reported on in these January returns, (as shown in the accompanying table,) the annual losses in Florida amount to 11 per cent. of value; Arkansas, 6; Georgia, 5.16; Tennessee, 4.6; Kansas, 3.8; Virginia, 3.4; Missouri, 2.2. In protected States: Ohio, four-tenths of one per cent.; New York, three-tenths. The reported losses are as follows, which do not include the maimed or injured:

States.	Number of counties reported.	Number of sheep killed.	Number of sheep in those counties in 1870.	States.	Number of counties reported.	Number of sheep killed.	Number of sheep in those counties in 1870.
Maine .....	3	704	59,635	Arkansas .....	14	2,258	36,984
New Hampshire .....	5	751	97,767	Tennessee .....	27	11,467	248,595
Vermont .....	7	525	262,544	West Virginia .....	20	2,870	185,257
Massachusetts .....	3	190	33,879	Kentucky .....	31	6,036	277,382
Connecticut .....	3	231	46,398	Ohio .....	24	6,517	1,523,074
New York .....	18	2,693	858,845	Michigan .....	17	3,280	810,576
New Jersey .....	2	243	15,352	Indiana .....	26	7,394	415,674
Pennsylvania .....	23	3,878	820,406	Illinois .....	27	6,413	398,711
Delaware .....	1	150	5,316	Wisconsin .....	14	1,658	262,171
Maryland .....	9	1,222	49,981	Minnesota .....	11	741	28,451
Virginia .....	34	4,205	127,952	Iowa .....	17	1,702	203,841
North Carolina .....	26	5,503	162,463	Missouri .....	43	13,146	585,027
South Carolina .....	4	925	13,451	Kansas .....	11	909	23,497
Georgia .....	20	3,363	65,131	Nebraska .....	3	128	1,435
Florida .....	5	458	4,021	California .....	9	1,965	631,146
Alabama .....	11	1,910	44,137	Oregon .....	5	686	109,441
Mississippi .....	12	1,764	43,421				
Louisiana .....	4	466	9,723	Total .....	500	79,485	8,572,744
Texas .....	11	1,144	61,060				

The losses in detail are thus reported. If too many or too few, we should be glad to receive corrections:

*Maine*: Waldo, 100; Lincoln, 450; York, 154; total, 704; total number of sheep in these counties in 1870, 59,635.

*New Hampshire*: Cheshire, 200; Sullivan, 30; Strafford, 121; Coos, 200; Carroll, 200; total, 751; number of sheep, 97,767.

*Vermont*: Rutland, 250; Washington, 30; Chittenden, 40; Caledonia, 125; Lamoille, 6; Grand Isle, 24; Addison, 50; total, 525; number of sheep, 262,544.

*Massachusetts*: Dukes, 15; Berkshire, 100; Plymouth, 75; total, 190; number of sheep, 33,879.

*Connecticut*: Litchfield, 100; New London, 35; Hartford, 96; total, 231; number of sheep, 46,398.

*New York*: Delaware, 200; Tompkins, 320; Steuben, 119; Rensselaer, 95; Schuyler,

86; Green, 160; Columbia, 350; Albany, 200; Saratoga, 120; Madison, 100; Genesee, 250; Fulton, 50; Cattaraugus, 240; Suffolk, 100; Sullivan, 18; Washington, 200; Livingston, 85; Jefferson, 20; total, 2,693; number of sheep, 858,845.

*New Jersey*: Camden, 43; Warren, 200; total, 243; number of sheep, 15,352.

*Pennsylvania*: Sullivan, 125; Perry, 150; Wayne, 150; Union, 50; Columbia, 250; Bedford, 200; Adams, 100; Warren, 190; Washington, 200; Tioga, 100; McKean, 60; Indiana, 63; Bucks, 10; Lancaster, 200; Chester, 500; Frie, 50; Fayette, 375; Forest, 20; Lawrence, 600; Clinton, 75; Cameron, 50; Berks, 60; Luzerne, 300; total, 3,878; number of sheep, 820,406.

*Delaware*: Kent, 150; number of sheep, 5,316.

*Maryland*: Worcester, 250; Frederick, 78; Dorchester, 80; Baltimore, 250; Harford, 65; Saint Mary's, 200; Wicomico, 80; Howard, 200; Cecil, 19; total, 1,222; number of sheep, 49,941.

*Virginia*: Sussex, 20; Tazewell, 100; Pulaski, 50; Pittsylvania, 120; Northumberland, 90; Henrico, 20; Frederick, 50; Caroline, 50; Bedford, 100; Stafford, 25; Spottsylvania, 2; Shenandoah, 75; King William, 50; Floyd, 50; Cumberland, 36; Madison, 100; Loudoun, 376; Dinwiddie, 35; Buchanan, 200; Nelson, 300; Highland, 1,200; Bland, 40; Washington, 200; Orange, 50; Louisa, 209; Craig, 15; Page, 125; Middlesex, 27; Essex, 40; Roanoke, 50; Matthews, 50; Montgomery, 150; Northampton, 300; Westmoreland, 100; total, 4,205; number of sheep, 127,952.

*North Carolina*: Wayne, 43; Transylvania, 40; Greene, 100; Gaston, 150; Chowan, 5; Cherokee, 50; Rowan, 50; Beaufort, 95; Stokes, 200; Randolph, 1,500; Hertford, 250; Alamance, 100; Yancey, 700; Haywood, 200; Alexander, 200; Wilkes, 250; Mitchell, 200; Gates, 100; Warren, 100; Montgomery, 200; Ashe, 120; Buncombe, 100; Jackson, 100; Onslow, 100; Stanley, 200; Guilford, 550; total, 5,503; number of sheep, 162,463.

*South Carolina*: Barnwell, 125; Newberry, 200; Williamsburgh, 100; Orangeburgh, 500; total, 925; number of sheep, 13,451.

*Georgia*: Telfair, 300; Harris, 182; Douglas, 25 per cent.; Taylor, 100; Houston, 200; Terrell, 135; Gordon, 300; Floyd, 50; Camden, 20; Banks, 50; Brooks, 500; Fulton, 30; Wayne, 50; Murray, 50; Jefferson, 96; Hall, 500; Forsyth, 50; Wilkinson, 20; Worth, 250; Early, 50; Montgomery, 200; Appling, 200; total, 3,363; number of sheep, (not including Douglas,) 65,131.

*Florida*: Taylor, 15; Santa Rosa, 300; Jackson, 35; Columbia, 83; Suwannee, 25; total, 458; number of sheep, 4,021.

*Alabama*: Saint Clair, 500; Lauderdale, 300; Jefferson, 100; Choctaw, 150; Covington, 85; Conecuh, 10; Shelby, 115; Monroe, 300; Geneva, 200; Morgan, 100; Franklin, 50; total, 1,910; number of sheep, 44,137.

*Mississippi*: Hancock, 50; Jackson, 300; Covington, 25; Yalabusha, 300; Winston, 200; Tishomingo, 20; Marion, 375; Amite, 180; Holmes, 50; Madison, 80; Smith, 50; Franklin, 134; total, 1,764; number of sheep, 43,421.

*Louisiana*: Washington, 50; Caddo, 216; Cameron, 100; Franklin, 100; total, 466; number of sheep, 9,723.

*Texas*: Kendall, 20; Comanche, 249; Rusk, 20; Dallas, 20; Cherokee, 70; Williamson, 115; Collin, 125; Galveston, 20; De Witt, 150; Cook, 50; Leon, 125; total, 1,144; number of sheep, 61,060.

*Arkansas*: Stone, 200; Sebastian, 100; Garland, 25; Craighead, 97; Onachita, 100; Baxter, 500; Cross, 40; Sharpe, 200; Izaard, 200; Fulton, 100; Dallas, 100; Arkansas, 75; Scott, 18; Benton, 500; total, 2,258; number of sheep, (not including Baxter, Garland, and Stone,) 36,984.

*Tennessee*: Rhea, 21; Coffee, 405; Giles, 1,750; Sullivan, 150; Perry, 500; Hancock, 100; Hardin, 100; Bradley, 33; Montgomery, 300; Jackson, 125; Heywood, 1,174; Smith, 150; Warren, 100; Monroe, 150; McMinn, 300; Carter, 75; Fentress, 107; Washington, 400; Wayne, 500; Robertson, 1,115; Sequatchie, 660; Decatur, 1,695; Dickson, 300; Lauderdale, 312; Union, 75; Sumner, 800; Morgan, 70; total, 11,467; number of sheep, 243,595.

*West Virginia*: Barbour, 20; Braxton, 25; Mineral, 50; Morgan, 40; Mercer, 60; Preston, 300; Putnam, 200; Tucker, 53; Wayne, 50; Gilmer, 100; Jefferson, 200; Pocahontas, 52; Cabell, 40; Kanawha, 110; Tyler, 75; Doddridge, 50; Harrison, 400; Mason, 125; Monongalia, 500; Randolph, 20; total, 2,870; number of sheep, 185,257.

*Kentucky*: Boyle, 140; Butler, 200; Clinton, 31; Cumberland, 120; Fayette, 230; Jackson, 30; Jessamine, 75; Lewis, 275; La Rue, 20; Laurel, 78; Marion, 100; Mercer, 100; Shelby, 300; Warren, 827; Boone, 350; Breckinridge, 125; Christian, 218; Grayson, 50; Hardin, 300; Logan, 483; Owen, 100; Owsley, 50; Spencer, 47; Ballard, 500; Kenton, 25; Nicholas, 182; Carroll, 60; Ohio, 100; Rock Castle, 30; Graves, 580; Russell, 300; total, 6,026; number of sheep, 277,382.

*Ohio*: Auglaize, 185; Ashland, 250; Henry, 85; Hocking, 263; Jackson, 387; Union, 97; Monroe, 407; Vinton, 120; Williams, 71; Fairfield, 800; Guernsey, 190; Hardin, 150; Licking, 160; Lorain, 132; Mahoning, 200; Perry, 200; Sandusky, 300; Warren,



525; Fayette, 600; Geauga, 95; Hancock, 140; Tuscarawas, 659; Huron, 175; Morgan, 326; total, 6,517; number of sheep, 1,523,074.

*Michigan*: Menomonee, 50; Livingston, 100; Allegan, 27; Genesee, 250; Hillsdale, 200; Van Buren, 50; Jackson, 500; Macomb, 200; Sanilac, 21; Tuscola, 38; Mecosta, 17; Ottawa, 70; Barry, 100; Ingham, 200; Montcalm, 157; Cass, 1,000; Kalamazoo, 300; total, 3,280; number of sheep, 810,576.

*Indiana*: Clinton, 150; Knox, 400; Ohio, 25; Perry, 150; Ripley, 500; Union, 150; Boone, 78; Cass, 306; La Porte, 200; Martin, 230; Orange, 1,200; Posey, 171; Shelby, 400; Warren, 100; Washington, 150; Huntington, 50; Pike, 200; Whitley, 600; Brown, 200; Fulton, 240; Hamilton, 300; Switzerland, 73; Tippecanoe, 621; Tipton, 300; Bartholomew, 450; De Kalb, 150; total, 7,394; number of sheep, 415,674.

*Illinois*: De Kalb, 500; Logan, 110; Schuyler, 200; Woodford, 20; Edwards, 200; Grundy, 100; Jackson, 127; Lawrence, 150; Pope, 500; Scott, 437; Stark, 50; Williamson, 200; Carroll, 50; Cass, 300; Lee, 28; Pulaski, 100; Clay, 200; De Witt, 500; Clark, 1,000; Clinton, 100; Johnson, 45; Shelby, 71; White, 1,000; Hancock, 125; Sangamon, 100; Mercer, 100; Stephenson, 100; total, 6,413; number of sheep, 393,711.

*Wisconsin*: Juneau, 5; Vernon, 38; Waupaca, 100; Crawford, 185; La Fayette, 500; Pekin, 20; Brown, 20; Columbia, 118; Douglas, 2; Sauk, 100; Calumet, 60; Richland, 300; Green, 50; Jefferson, 160; total, 1,658; number of sheep, 262,171.

*Minnesota*: Steele, 19; Olmsted, 200; Rice, 30; Sibley, 35; Sherburne, 135; Isanti, 70; Lyon, 50; Faribault, 87; Nicollet, 75; Todd, 25; Pope, 15; total, 741; number of sheep, (not including Lyon,) 28,451.

*Iowa*: Washington, 25; Allamakee, 90; Cass, 50; Fayette, 100; Jasper, 175; Jones, 75; Scott, 27; Decatur, 500; Fremont, 200; Marion, 200; Winnesheik, 19; Benton, 78; Mahaska, 75; Buchanan, 25; Ida, 8; Madison, 5; Shelby, 50; total, 1,702; number of sheep, 203,841.

*Missouri*: Pike, 100; Benton, 150; Chariton, 270; Clarke, 300; Greene, 1,500; Maries, 170; Miller, 25; Moniteau, 1,000; Nodaway, 233; Pettis, 230; Polk, 350; Rolls, 125; Caldwell, 400; Franklin, 300; Madison, 375; Montgomery, 300; Morgan, 130; Newton, 1,000; Phelps, 250; Saint Francois, 30; Shelby, 200; Bates, 478; Daviess, 200; Callaway, 760; Clay, 250; Douglas, 50; Howard, 500; Randolph, 1,000; Stoddard, 300; Jackson, 10; Putnam, 500; Adair, 400; Dent, 125; Lincoln, 300; Macon, 100; Vernon, 250; Carter, 100; Dade, 90; Henry, 100; Oregon, 60; Ozark, 60; Schuyler, 20; Texas, 60; total, 13,146; number of sheep, 585,027.

*Kansas*: Marshall, 20; Allen, 150; Lincoln, 102; Nemaha, 16; Neosho, 100; Woodson, 120; Cloud, 7; Lyon, 84; Labette, 35; Wilson, 225; Butler, 50; total, 909; number of sheep, 23,497.

*Nebraska*: Dixon, 11; Pawnee, 17; Nemaha, 100; total, 128; number of sheep, 1,435.

*California*: Alameda, 43; San Luis Obispo, 300; Mendocino, 400; Placer, 300; El Dorado, 100; Fresno, 25; Santa Clara, 500; Tulare, 200; Humboldt, 97; total, 1,965; number of sheep, 681,146.

*Oregon*: Lane, 300; Clackama, 50; Multnomah, 60; Curry, 150; Linn, 126; total, 686; number of sheep, 199,441.





Table showing the average yield per acre and price of the principal crops, &amp;c., in December, 1874—Continued.

States,	POTATOES. ( <i>Datatas edulis</i> ,) sweet.		LEAF TOBACCO.		HAY.		SORGHUM MOLASSES.		WINTER WHEAT.		WINTER RYE.		WINTER BARLEY.	
	Average yield per acre in 1874, stated in bushels.	Average price per bushel on 1st day of December, 1874.	Average yield per acre in 1874, stated in pounds.	Average price per pound on 1st day of December, 1874.	Average yield per acre in 1874, stated in thousand hun- dreds.	Average price per ton on 1st day of De- cember, 1874.	Average yield per acre in 1874, stated in gallons.	Average price per gallon on 1st day of December, 1874.	Average area sown com- pared with 1873.	Condition of the crop com- pared with an average.	Average area sown com- pared with 1873.	Condition of the crop com- pared with an average.	Average area sown com- pared with 1873.	Condition of the crop com- pared with an average.
Maine.....	.....	.....	.....	.....	.....	\$13 13	.....	.....	108	103	97	103	.....	.....
New Hampshire.....	.....	.....	.....	.....	.....	13 13	.....	.....	85	98	103	97	.....	.....
Vermont.....	.....	.....	.....	.....	.....	13 13	.....	.....	85	90	76	96	.....	.....
Massachusetts.....	.....	.....	.....	.....	.....	11 80	.....	.....	105	105	105	99	.....	.....
Rhode Island.....	.....	.....	1,450	\$0 25	.....	21 40	.....	.....	100	100	100	100	.....	.....
Connecticut.....	.....	.....	1,400	22 5	.....	24 66	.....	.....	100	102	102	102	.....	.....
New York.....	.....	.....	.....	.....	.....	10 25	.....	.....	100	101	99	102	.....	.....
New Jersey.....	82	\$1 15	.....	.....	.....	13 10	.....	.....	100	101	100	101	.....	.....
Pennsylvania.....	80	1 06	900	17	.....	16 22	.....	.....	100	101	100	101	.....	.....
Delaware.....	132	66	.....	.....	.....	17 05	133	\$0 67	102	101	99	98	.....	.....
Maryland.....	96	.....	.....	.....	.....	20 00	135	50	94	95	.....	.....	.....	.....
Virginia.....	94	96	650	10 7	.....	20 00	135	50	94	95	.....	.....	.....	.....
North Carolina.....	81	75	620	11 3	.....	17 63	93	63	90	88	99	90	.....	.....
South Carolina.....	95	55	497	19 7	.....	16 88	83	53	98	93	98	98	.....	.....
Georgia.....	88	82	.....	.....	.....	14 83	68	54	104	101	99	101	.....	.....
Florida.....	89	53	650	13	.....	23 83	.....	.....	102	103	109	102	.....	.....
Alabama.....	113	56	.....	.....	.....	22 33	67	57	126	103	103	100	.....	.....
Mississippi.....	63	73	500	29	.....	17 50	78	74	120	106	102	103	.....	.....
Louisiana.....	57	77	.....	.....	.....	21 09	47	82	170	102	172	99	.....	.....
Texas.....	56	77	.....	.....	.....	20 00	.....	.....	135	100	115	85	.....	.....
Arkansas.....	92	75	619	22 5	.....	10 92	107	70	142	102	107	102	.....	.....
Missouri.....	58	94	525	15	.....	14 12	62	71	130	105	144	107	.....	.....
Tennessee.....	87	73	597	12	.....	19 08	75	57	130	111	122	100	.....	.....
West Virginia.....	80	1 20	529	14 9	.....	16 37	96	67	106	97	98	97	.....	.....
Kentucky.....	76	92	577	13 7	.....	18 22	91	52	132	102	96	102	.....	.....
Ohio.....	89	1 47	625	9 4	.....	17 82	78	63	100	92	99	102	.....	.....
Michigan.....	.....	.....	.....	.....	.....	15 60	.....	.....	101	97	90	100	.....	.....
Indiana.....	84	96	650	8 4	.....	13 92	89	53	98	96	90	100	.....	.....
Illinois.....	85	90	700	10	.....	10 49	92	59	110	109	100	103	.....	.....
Wisconsin.....	.....	.....	.....	.....	.....	10 07	74	64	92	105	100	103	.....	.....
Minnesota.....	.....	.....	.....	.....	.....	5 10	96	69	108	103	107	107	.....	.....
Iowa.....	90	1 11	.....	.....	.....	6 47	110	56	106	109	101	102	.....	.....
Missouri.....	76	1 09	670	8 8	.....	12 05	83	58	109	112	100	110	.....	.....
Kansas.....	51	1 35	550	12	.....	3 86	51	65	130	112	135	112	.....	.....
Nebraska.....	87	2 62	.....	.....	.....	4 74	45	66	144	116	194	109	.....	.....
California.....	163	1 12	.....	.....	.....	15 09	.....	.....	111	106	131	111	.....	.....
Oregon.....	.....	.....	.....	.....	.....	11 50	.....	.....	79	87	74	83	.....	.....

Table showing the relative percentage of numbers and prices of farm-stock in January, 1875, as compared with the returns of January, 1874.

States.	HORSES.						MULES.				MILCH COWS.		
	Total number of horses compared with that of January, 1874.	Average price per head under 1 year old.	Average price per head between 1 and 2 years old.	Average price per head between 2 and 3 years old.	Average price per head over 3 years old.	Total number of mules compared with that of January, 1874.	Average price per head under 1 year old.	Average price per head between 1 and 2 years old.	Average price per head between 2 and 3 years old.	Average price per head over 3 years old.	Total number of milch cows compared with that of January, 1874.	Average price per head at this time.	
Maine.....	101	\$31 19	\$49 62	\$77 78	\$112 50	.....	.....	.....	.....	.....	106	\$39 50	
New Hampshire.....	99	33 00	51 62	79 50	115 00	.....	.....	.....	.....	.....	103	39 57	
Vermont.....	102	32 30	51 00	78 30	114 00	.....	.....	.....	.....	.....	103	36 40	
Massachusetts.....	103	41 17	66 66	95 00	135 00	.....	.....	.....	.....	.....	102	46 50	
Rhode Island.....	100	40 00	68 00	99 00	130 00	.....	.....	.....	.....	.....	100	44 25	
Connecticut.....	102	33 75	61 87	87 50	125 50	.....	.....	.....	.....	.....	106	42 87	
New York.....	101	36 54	59 74	88 30	118 11	98	\$41 50	\$65 50	\$102 50	\$130 00	104	37 50	
New Jersey.....	100	52 00	82 78	111 11	135 00	100	40 50	66 75	105 46	146 66	100	47 50	
Pennsylvania.....	103	37 02	63 72	92 25	123 90	103	40 50	65 00	85 50	137 07	102	35 42	
Delaware.....	100	37 60	58 75	80 50	105 00	100	45 00	65 00	85 50	120 00	90	32 00	
Maryland.....	100	39 53	62 00	85 07	115 50	101	48 69	70 75	111 11	121 50	103	29 19	
Virginia.....	101	29 63	48 93	70 30	94 87	101	36 78	58 15	90 41	111 36	98	32 94	
North Carolina.....	101	33 73	52 54	75 96	96 74	102	39 59	61 72	85 95	109 00	99	16 00	
South Carolina.....	102	38 50	62 25	95 65	112 00	102	48 43	72 50	104 00	128 00	101	21 50	
Georgia.....	101	35 00	56 17	80 95	106 20	99	40 30	65 00	96 25	115 50	100	18 85	
Florida.....	100	39 00	65 20	92 50	126 00	98	47 00	70 75	109 50	128 50	96	13 67	
Alabama.....	98	27 38	46 25	64 50	93 66	100	33 30	53 75	78 50	101 50	98	17 86	
Mississippi.....	100	28 70	45 75	65 00	94 20	97	31 33	50 20	76 50	102 10	100	20 86	
Louisiana.....	99	18 98	28 87	45 50	90 00	102	32 75	52 25	80 00	107 83	96	20 23	
Texas.....	103	13 11	19 77	28 26	44 81	104	19 37	29 91	42 58	65 55	100	13 33	
Arkansas.....	95	20 00	30 50	45 75	68 50	97	25 53	37 15	60 52	85 30	100	15 88	
Tennessee.....	105	30 12	45 74	63 20	84 75	104	33 53	51 58	75 00	93 30	98	18 03	
West Virginia.....	102	26 82	41 44	59 50	83 70	102	31 07	43 06	70 81	96 06	100	27 25	
Kentucky.....	102	26 55	40 46	57 19	78 00	97	30 71	47 70	70 10	91 91	97	26 49	
Ohio.....	102	31 00	49 11	71 50	98 00	103	35 40	54 30	76 60	101 28	100	30 42	
Michigan.....	101	33 92	51 41	82 36	103 70	97	36 77	57 38	90 13	111 63	102	32 80	
Indiana.....	102	27 38	43 31	60 98	84 35	101	31 79	48 88	71 34	97 77	100	26 34	
Illinois.....	101	25 78	40 34	59 31	83 41	93	31 00	47 25	70 82	96 63	100	28 59	
Wisconsin.....	104	32 07	50 09	72 00	102 75	107	34 00	53 66	82 81	107 35	105	36 37	
Minnesota.....	109	31 75	49 00	72 12	105 57	113	34 87	54 59	82 65	108 87	101	25 20	
Iowa.....	100	27 18	41 50	61 58	85 47	102	34 80	51 89	76 51	105 57	104	26 50	
Missouri.....	105	21 09	30 92	43 21	60 16	102	27 33	38 95	56 75	76 06	100	19 50	
Kansas.....	109	20 77	28 68	43 31	64 18	103	29 82	40 44	58 41	85 28	102	20 65	
Nebraska.....	109	23 92	39 86	61 50	82 58	98	30 67	49 67	74 00	112 53	108	28 29	
California.....	99	17 02	27 07	39 78	62 12	101	30 95	32 53	52 36	88 39	104	32 19	
Oregon.....	99	19 30	28 00	39 50	60 30	100	19 00	27 30	39 80	61 30	104	21 65	

Table showing the relative percentage, &c., of farm-stock, &c.—Continued.

States.	OXEN AND OTHER CATTLE.					SHEEP.			HOGS.		
	Total number of oxen and other cattle compared with that of Jan-uary, 1874.	Average price per head under 1 year old.	Average price per head between 1 and 2 years old.	Average price per head between 2 and 3 years old.	Average price per head over 3 years old.	Total number of sheep compared with that of Jan-uary, 1874.	Average price per head under 1 year old.	Average price per head over 1 year old.	Total number of hogs compared with that of Jan-uary, 1874.	Average price per head under 1 year old.	Average price per head over 1 year old.
Maine .....	102	\$11 56	\$21 12	\$24 09	\$63 00	110	\$3 50	\$4 31	99	\$9 40	\$23 50
New Hampshire .....	99	11 94	23 50	26 60	63 25	102	3 10	3 82	98	10 87	24 00
Vermont .....	102	8 80	14 80	29 60	51 50	95	3 05	4 82	98	9 00	23 00
Massachusetts .....	99	11 66	21 00	36 75	62 50	100	2 66	3 75	97	12 42	23 50
Rhode Island .....	100	15 00	32 00	35 00	62 00	99	3 75	4 75	97	13 00	24 00
Connecticut .....	107	14 00	21 75	35 25	62 75	103	3 65	4 12	98	10 50	22 25
New York .....	98	10 45	19 50	32 64	52 08	98	3 10	4 00	90	8 00	15 40
New Jersey .....	100	13 08	22 70	37 50	52 75	101	2 80	5 60	101	10 33	18 75
Pennsylvania .....	100	10 45	18 35	29 41	42 62	100	2 80	3 90	90	7 14	17 80
Delaware .....	100	9 00	13 70	20 75	32 00	100	3 00	3 50	100	5 50	7 00
Maryland .....	97	9 37	14 30	21 87	34 12	104	3 44	4 30	97	4 66	9 73
Virginia .....	98	6 48	11 05	17 36	24 67	100	2 41	3 17	88	3 22	6 75
North Carolina .....	98	3 85	6 00	9 40	14 70	99	1 21	1 70	98	2 48	5 80
South Carolina .....	101	6 00	9 17	13 83	18 03	96	1 61	2 33	94	3 45	7 50
Georgia .....	92	4 10	7 00	10 75	15 00	99	1 20	1 76	101	2 86	6 21
Florida .....	97	4 17	6 10	9 67	12 90	99	1 41	2 13	104	2 00	5 54
Alabama .....	96	4 73	7 25	11 33	16 70	96	1 37	2 30	92	2 18	5 81
Mississippi .....	99	4 63	7 37	11 45	17 80	96	1 43	2 21	94	2 00	6 31
Louisiana .....	97	3 70	6 29	9 58	15 60	97	1 20	2 11	85	2 70	6 32
Texas .....	98	3 18	5 28	8 16	11 82	108	1 22	2 13	100	2 00	5 00
Arkansas .....	97	3 80	6 25	9 17	15 06	104	1 39	2 22	92	1 77	4 46
Tennessee .....	96	4 20	7 31	11 21	17 40	93	1 39	2 20	84	2 56	6 09
West Virginia .....	98	8 25	15 71	23 47	35 21	97	2 77	2 70	93	3 17	7 23
Kentucky .....	94	8 98	14 25	22 12	34 53	94	2 25	3 09	85	3 90	8 67
Ohio .....	101	9 00	17 31	27 37	40 08	99	2 12	3 00	86	5 46	12 12
Michigan .....	96	9 15	17 00	28 00	42 00	98	2 50	3 25	90	5 22	11 55
Indiana .....	99	7 00	13 20	22 25	33 50	94	1 80	2 61	89	4 34	9 30
Illinois .....	98	7 78	13 18	25 60	33 69	98	1 90	2 84	89	4 92	10 50
Wisconsin .....	110	6 58	12 16	20 03	33 32	102	1 88	2 50	95	3 75	9 42
Minnesota .....	102	8 40	14 51	23 65	33 59	112	1 87	2 77	102	2 84	8 81
Iowa .....	100	5 58	10 00	16 42	24 25	98	1 72	2 60	92	5 00	12 13
Missouri .....	98	5 84	11 00	17 50	25 08	98	1 79	2 10	80	2 34	5 50
Kansas .....	94	5 84	11 00	17 50	25 08	98	1 79	2 57	48	2 70	6 67
Nebraska .....	90	7 00	13 34	21 34	37 00	109	1 97	2 74	60	3 00	7 37
California .....	94	8 63	13 65	21 32	29 27	100	1 86	2 76	90	4 85	8 53
Oregon .....	104	5 35	9 00	13 75	20 10	113	2 19	2 73	102	3 02	5 87



## EXTRACTS FROM CORRESPONDENCE.

**INCREASE IN DAIRYING.**—*Piscataquis, Me.*: The largest increase in stock is in milch cows, probably caused by the number of cheese-factories built the past season, and the consequent demand for more cows. *Waldo, Me.*: With the introduction of cheese-factories, farmers in this county are changing somewhat their style of farming. Cows are being kept in larger numbers, and the numbers of oxen and steers are diminishing. Too many horses have been raised, and too few sheep kept, but these matters are regulating themselves. *Hillsborough, N. H.*: The milk-business is increasing, and milch cows are taking the place of other stock. *Rutland, Vt.*: Milch cows are increasing, and sheep decreasing in numbers. *Queens, N. Y.*: Many of our farmers have gone largely into the milk business, to supply New York and Brooklyn. The stock has been increased, and the improvement of the same by crossing with thorough-breds has increased the value. *Warren, N. Y.*: The demand for cows for dairy purposes is increasing. *Erie, Pa.*: Milch cows have increased one-fourth, for cheese-factory purposes. *Jackson, Wis.*: There has been a good demand for milch cows for cheese-factories, &c., and they bear a better price in proportion than beef steers. *Sauk, Wis.*: Farmers are generally turning attention to dairying; hence the increase in cows. *Swift, Minn.*: Dairy farming is increasing, and as fast as our population learn to make good butter, it will continue to increase. *Mower, Minn.*: Milch cows have increased, owing to the high price of butter for the last two years. *Ottawa, Kan.*: Steps are being taken to organize two or three cheese-factories in our county, and the number of milch cows has materially increased.

**WADENA COUNTY, MINN.**—This county was organized two years ago, the date of its first settlement. It is well adapted to the dairy business, having great quantities of the blue and red top varieties of grass upon the river-bottoms and along the margins of the streams running through the county. The very nutritious blue-joint is the principal grass upon the prairies. There is plenty of tamarac and oak timber at convenient distances, throughout the county, for fuel and fencing. The county is settling rapidly by a good, industrious class of American and English farmers. All crops for 1874 were good, this county having had no ravages from grasshoppers.

**A PROSPEROUS COUNTY.**—*Harrison, Iowa*: This county has had some settlers for twenty-five years, but the last seven has added most of the 12,000 now here. The population is increasing rapidly; the immigration being considerable. Except the bottoms of the Missouri River, its western boundary, and the Boyer River, from one to eight miles wide, the land is all rolling, and almost all tillable and exceedingly fertile. Though mostly open prairie, there are many thousand acres of timber; enough, indeed, for all purposes but house-building. The soil is clear of rocks; not one to obstruct the plow; yet, lying 10 or 12 feet below the surface, there are several quarries of great value. The Boyer River, crossing the county, forms one of the finest valleys in the whole west. In this valley, in the village of Logan, and near the geographical center of the county, is a depot of the Chicago and Northwestern Railroad. There is no swampy or boggy land, the ground being as dry at the foot of the hills as at the top. This is due to the fact that there is no clay or "hard-pan" under the soil, which is loamy and strongly impregnated with lime. It is nearly the same in

quality and texture as far down as they go in digging wells—10 to 75 feet. Everything pertaining to farming is improving and extending. Almost all farm-work is done by the most improved implements, mowers, reapers, headers, thrashers, etc.; many thousands are spent in this way annually, and perhaps beyond economy or profit. By reason of grasshoppers and potato-beetles, 1873 and 1874 had been the worst crop for years ever known here; yet there is more corn in 1874 than ever before, and more cattle and hogs have been shipped since September 1st than in any former year. The stock of hogs is of good blood, and though every pig that can be got into market has been, or will be, sold, there are now many more hogs than at this time last year. Corn, wheat, oats, potatoes, buckwheat, barley, sorghum, and garden-vegetables do well. Prairie-hay is so good and abundant that tame grasses are not raised, though they might be successfully. Apples, grapes, and such fruits succeed, but not peaches.

**MANUFACTURES NEEDED.**—*Bedford, Tenn.*: The financial pressure is very great in this State, and I fear will be until there is a larger number induced to engage in manufacturing. South of this, there is but little demand for stock, and being forced to get almost all our supplies elsewhere, the State is kept drained of money. Under these circumstances stock-raising cannot be made very profitable.

**FAILURE OF WATER.**—*Columbia, Wis.*: Water in the earth, during the last five or six years, has been constantly, steadily settling; so that most of our wells have had to be deepened in order to have water. What are we coming to? A barren waste? Or can we do something to moisten our climate?

**CULTIVATED GRASSES IN TEXAS.**—*Bosque*: The blue-grass sent me from the Department was sown on the 1st of January, 1874, on good timbered bottom-land. It was well plowed and harrowed over twice, the seed sown, and a large roller run over to press it in. The result is, I secured a good stand which stood the drought well during the last hot summer. Since the rains it has grown to the height of about 10 inches, and to-day looks like the spring of the year. I am satisfied it will succeed well in our timber-bottoms and be of great benefit in wintering our stock. The Alsie clover is also doing well and may prove to be of benefit to us.

**GRAPE-CULTURE IN NEW YORK.**—*Steuben*: The grape vintage in this county is finished and the crops marketed. The aggregate exceeds 6,000 tons. The wine company have bought 2,500 tons, and the remainder were marketed in New York, Boston, Philadelphia, and Baltimore, at an average of \$100 net per ton. The area in vineyards is about 4,500 acres.

**ASSOCIATION.**—*Steuben, N. Y.*: The Granger action for the year has produced beneficial results for farmers. The middle-men have not been able to reduce the prices. Butter, cheese, pork, barley, corn, and oats are held for outside figures, and buyers are compelled to pay them. They do not now say to the farmer, "I will pay you so much," but, "What will you take?" The result is that "farming begins to pay." The dairymen's association, of Western New York, is controlling the price of dairy products through its board of trade, thus securing profit for the manufacture of cheese and butter. The wool-growing interest has lately resolved to move in the same direction.

**CURE FOR BOTS.**—*Murray, Ga.*: It appears from remarks made by



different writers that none know of any certain remedy. I know of a remedy, that is safe and certain, discovered in the following way: About thirty years ago, a friend lost by bots a very fine horse. He took from the stomach of the dead horse about a gill of bots and brought them to my office to experiment upon. He made preparations of every remedy he had heard of, and put some of them into each. Most had no effect, a few affected them slightly, but sage-tea more than anything else; that killed them in fifteen hours. He concluded he would kill them by putting them in nitric acid; but it had no more effect on them than water; the third day they were as lively as when put in. A bunch of tansy was growing by my office. He took a handful of that, bruised it, added a little water, squeezed out the juice, and put some in; they were dead in one minute. Since then I have had it given to every horse I have seen affected with bots, and have never known it to fail of giving entire relief. My friend had another horse affected with bots, several years later. He gave him the tansy in the morning and a dose of salts in the evening; the next morning he took up from the excretions three half-pints of bots.

**GOOD FROM EVIL.**—*Douglas, Ga.*: On account of the low price of cotton, farmers have generally come out in debt. Labor for the coming year is very much unsettled; there is quite an exodus among the freedmen, and some few whites have the Nebraska fever. There is also an unusual changing or shifting among the freedmen. Furthermore, it is anticipated that 1875 will be a very hard year, on account of the repeal of the lien-law, but this will prove a great blessing in the end, as the law opened the way for the people to go in debt and become extravagant; now they will have to retrench, reform, and use economy. The programme for the future is to make less cotton, more meat and bread, and pay as you go. *Terrell, Ga.*: Our county is in many respects in better condition than it was at this time last year. Hard times are teaching our people lessons of economy, and farmers are beginning to realize the fact that cotton is not king. They are planting less cotton and more grain.

**PROGRESSIVE FARMING.**—*Davidson, N. C.*: The disposition to grow the improved grasses and clover is increasing. Wherever this occurs with us there is more farm-thrift and a corresponding increase in stock, especially mules and milch cows. Our great, crying need is more intelligence in farm-management. We have good lands and a fine climate, but too little of the "wide-awake" spirit. Reliable labor is also a very rare thing with us.

**DRAWBACKS IN AGRICULTURE.**—*Union, S. C.*: Since the negroes became free, the farmers and planters have found it impracticable to raise hogs beyond a very limited number. The negroes practically treat ownership in these with as little respect as in rabbits, birds, and other game. From the same cause sheep have almost disappeared from this county. The common cattle of the country are very generally of inferior size and breed. They are hardy, accustomed to scant pasture, except during a few months, and to still more scant attention during the remainder of the year; consequently they are of no great value for either milk or beef.

**UNPROFITABLE DIVERSION FROM FARMING.**—*Wayne, Ga.*: The most of the laboring-people of the county have neglected their stock and the cultivation of their lands, and have pretty nearly ruined themselves by lumbering, which rarely pays, and this year especially has been far from remunerative.

GOAT-RAISING.—*Shelby, Ala.*: The goat is the most profitable animal raised in this county. The increase is very rapid and the expense of wintering much less than of sheep. The average price per head is about \$2.

STOCK-RAISING.—*Beaufort, N. C.*: In a large part of this county there are excellent ranges for cattle both winter and summer, and the business of raising cattle for beef pays a large profit on the amount invested. The only expenses are for penning and salting in summer. As winter comes on, the cattle go into the large swamps, and are not seen by their owners again till spring. If the winter is mild, they come out in spring in good condition. *Beaufort, S. C.*: The pasturage in Beaufort, as well as in all the counties along the Carolina seaboard, cannot be surpassed. Stock, unmolested, will keep in good condition on the spring and summer grasses, and during the winter the cane-brakes afford ample sustenance. In the marshes *preference* is given to beef wintered in the cane-swamps.

ROOM FOR IMPROVEMENT.—*Greenville, Va.*: Some little attention is turned to the raising of sheep, and it seems very profitable. The cry now is, "Cotton doesn't pay." Bushes and briars have taken possession of very many acres that should become food for sheep. I do not know of a mowing-machine in the county, and thousands of acres of weeds are permitted to go to seed every year.

SOURCES OF IMPROVEMENT IN STOCK.—*Essex, Va.*: There is some improvement in breeds. The enterprise of one or two leading farmers will doubtless work a marked change in a few years, but no permanent improvement can be expected until the cultivated grasses (to many of which the county is well adapted) are more generally grown.

DISEASES AMONG FARM-ANIMALS.—*Burke, N. C.*: Cholera has carried off a good many hogs, while a disease like the Texas fever has taken off some few cattle—a disease that has prevailed for the last dozen years in our county. It is confined mainly to the fullest fed, fattest, and best stock we have. As yet, no remedy has been discovered.

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## INTERNATIONAL STATISTICS.

The Department has received, through the Department of State, the Memorial of the International Congress of Farmers and Foresters, held at Vienna during the Exposition of 1873. It was prepared by Dr. August Meitzer, private counselor and member of the German Imperial Bureau of Statistics, at the request of the president of the congress, his excellency Herr Ritter von Chlumecky, Austrian minister of agriculture. This document defines the scope of agricultural statistics as relating to the soil—its cultivation and products; commerce in foods; number and distribution of agricultural population; real estate, with its investment of capital and capacity for production, or labor-power; material and intellectual development of the farmers, &c. European governments have given some attention to the subject in the past, and efforts have been made to establish a system of agricultural statistics. France and Belgium have made extended agricultural "*enquetes*" at different periods, and other countries have imitated them. Sweden and Norway take a regular census every five years; Baden,

Wurtemberg, and Hesse every year for purposes of taxation. Something in this way is also done in Saxony, Holland, and Ireland. Perhaps no European state neglects the matter entirely. Live stock is generally enumerated, and, under land-tax laws, inquiries are periodically made in regard to the value of land, its proprietary subdivisions, occupation by specific crops, number and calling of the population, &c.

These efforts, however, have not given results entirely satisfactory. Some small states, such as Servia, Roumania, and Greece, have been able to establish upon their limited areas comparatively effective systems of field-statistics; while Germany and England find it difficult to procure a system that will embrace all the points of their immense production. The great difficulty is found in the variety of laws, schedules, &c., in force in different states, furnishing but few points for international comparison. The necessity for such comparison is more perceptible and pressing than in former years, when international trade in agricultural staples was mostly by sea. Its grand propelling forces were wars, famines, extraordinary high prices, and other causes, creating a sudden and great deficiency in food and other necessities of life in some localities. These created a great but ephemeral demand, causing rapid but convulsive movements of produce. These exceptional and temporary causes of enlarged trade have been superseded in modern civilization by a more differential and permanent relation of supply and demand. The facilities both of intelligence and transportation of the present day have greatly narrowed the scope of speculation of middle-men by bringing all parts of the productive surface of the earth in close competition. No artificial elevation of prices can long stand against the immense amount of produce that would be attracted from all quarters.

But the soil itself, as well as its products, has, through changes in European landed systems, become a prominent article of commerce. Entailed settlements have been largely superseded. The land, not descending from father to son, as formerly, and not being valued simply as a means of personal subsistence, has assumed a merchantable character as real estate, affording a scope of investment of capital and skill in production. This facility of transfer renders the soil available to the varied demands of production, and consequently gives rise to a more general system of culture, which has greatly enhanced its productive power.

A general complaint of unequal taxation is rife through European countries. It is believed that a better understanding of the character and relations of the soil and its products to other great interests cannot fail to point out methods of removing this evil as well as the want of capital, excessive cost of agricultural machinery, and modern processes of culture, &c., which are severely felt in a large portion of the productive area of civilization. No government will refuse to adjust its system of taxation so as to remove inequalities clearly pointed out. Errors of judgment in regard to the expenses current or to risk of capital, cause an excessive rental of land. A want of confidence causes the withholding of loaned capital from the cultivator. These difficulties spring from known or unknown anomalies in agricultural production which a well-digested method of statistical inquiry would detect and of which it would indicate a remedy. Labor-strikes might also be removed by careful inquiry into the condition of the laboring population. The accumulation and diffusion of information in regard to markets among both producers and middle-men would largely remove that uncertainty, the cost of which ultimately falls, without recourse, upon the producer.



For the preparation of a uniform system of statistics, the Vienna congress organized a permanent commission, whose duty is to collect information as to the execution of the decisions of the congress in different countries, together with the difficulties that stand in the way; to assimilate statistical publications of different countries, with a view to the promotion of an international system; to prepare a programme for discussion of the subsequent meetings of the congress; to set on foot international inquiries in different countries in all proposed branches, and to report the results; to execute all the international work, such as was proposed at the congress at the Hague, and to resolve the questions pertaining to their execution; finally, to present to the congress an abstract of action necessary to be taken.

The Brussels congress in 1853, the offshoot of the great London exposition of 1861, defined the scope of agricultural statistics as embracing such information as is necessary to determine the facts, conditions, processes, and results of productive industry at a given time. These facts should be gathered in in different countries in schedules capable of comparison and embracing a single farming year, or an average year. The last quarter of the year gives the most convenient opportunity for comparison. These inquiries should be periodically repeated, and more frequently in countries in which agricultural systems and results show marked changes. Every decennial census of population should embrace schedules of agricultural statistics. The congress did not insist upon any uniform mode of making these inquiries, nor upon any uniform system of questions. The latter should be as few as possible, embracing the areas devoted to specific cultures, mode of fertilization, value of products, agricultural laborers, and farm-animals. The congress at Paris in 1855 recommended a decennial census embracing elaborate details, with more limited annual inquiries, embracing only the leading points. These should be made in each locality by private individuals organized into commissions. The area should be permanently parceled out by government in order to facilitate such inquiries. These should embrace the acreage in different crops, total and relative product, weight of the product in proportion to volume. To these questions as a minimum should be added others in regard to the price of wood per hectare, the products of agriculture, silk-production and prices of cocoons, irrigation, drainage, machinery, &c. The decennial census, with more extended schedules, should show the condition of present culture, land improvement, cost of labor, condition of the laboring population, live stock, manure, and other matters essential to a proper study of agricultural production. The London congress, in 1860, demanded an annual determination of the product of the principal crops of all countries, with their acreage; an annual, or at least quinquennial enumeration of live stock, their market-value, &c. The mode of inquiry was left to each particular country. The Florence congress of 1867 still further elaborated the data to be sought by statistical inquiry, and laid special emphasis upon the traffic in real estate. The congress at the Hague, in 1869, adopted the resolution offered by the American delegate, Mr. Ruggles, requesting the delegates to the next congress to furnish statistics of their respective countries for three years prior to its meeting. These different congresses seemed to harmonize upon the specific objects of the international system of statistics, but the members greatly differed as to the practical methods of attaining them.

Among the reforms recommended by the late congress at Vienna was a uniform standard of weights, measures, and money. It was strongly urged that all schedules should be carefully worded and the different

classes of subjects distinctly defined, so as to avoid all danger of misconception by the local agencies for the collection of facts; and that they should be so constructed as to admit of modification to suit local and national variations. The points of inquiry should be as few as possible and embrace only the points of pressing necessity. They should be arranged into two general groups: 1st. The soil, its occupation by specific crops, live stock, number and occupation of the inhabitants. 2d. The actual production, market-prices, transportation, wages, loans, and transfers of real estate. The first group embraces the more permanent and the second the more variable elements of agricultural production. The decennial census should be taken in all countries the same year, and its results published as speedily as possible.

In regard to acreage of crops, data should be obtained from intelligent residents. Tax-rolls give imperfect information, as the present use of land is very different from what it was when these were originally framed. The area of local inquiry should, as far as possible, represent specific political subdivisions of the country. The schedules should specify the amount of land lying waste, woodland, land in pasture, in meadows, under plow-culture, under spade-culture, in orchards and fruit-gardens, in ornamental parks, in barn-yards, door-yards, roads, &c. If a larger or smaller number of inquiries be used, they should be arranged so as to be capable of condensation or division into a uniform international series. The relative acreage in different grains is a subject of special importance, which has been very successfully treated in the Duchy of Baden. There is even here considerable divergence between the real and estimated areas, especially of small crops; yet the general results show the wisdom of the method of gathering local statistics by intelligent private individuals. France, Belgium, Austria, and Sweden have made tolerably complete divisions of crops, and their schedules approximate the true practical ideal. Austria, composed of diverse nationalities, has had unexpected success in her method.

Only a few countries publish authoritative statements of crop-yield; hence, reliance must be placed on estimates of residents, which, though only approximations, may, by careful discrimination between the intelligent and unintelligent reports, between small and large farming, between modes of culture and known results, be made to indicate results closely approaching the actual truth. Discrimination should be made between rich, medium, and poor soils, but political divisions cannot be ignored. The heads of divisions in the schedules of crop-yield should accurately correspond with those of area; the land measures and weights should be reduced to hectares and kilograms.

Great inconvenience is felt from the lack of reliable statistics of woodland and wood production. Estimates in this department should be made only by men of experience, whose number is small. The points of inquiry should be few and practical, embracing heaths, hedges, deciduous trees, (cultivated or not,) conifers, brushwood, &c. Timber valuable for industrial purposes should be particularized. An annual enumeration of all sorts of live stock should be taken at a uniform period of the year. The maximum season is that in which the young are just born and the old not disposed of; the minimum is the winter, when every farmer reduces the amount of live stock to feed during the absence of pastures. These extremes should, as far as possible, be equalized. This class of statistics is generally defective. France and a few other countries have obtained satisfactory data. The schedule proposed by the congress embraces each class of animals, discriminated according to



age, with the number slaughtered or lost by natural death, and the products either of their living bodies or their carcasses.

The number and size of barns and the number and classification of the agricultural population are important topics of statistical inquiry, but unfortunately have received very little attention. The tax-rolls of Europe are very inadequate to determine the truth upon these points. It would be desirable, if possible, to divide landholders into groups according to the extent of their properties. The number of the population, with an exact designation of their occupations, together with the real estate owned by each class, should be given.

The above inquiries should be elaborated in a decennial census. There should also be an annual inquiry into the yields of different crops, prices of farm-products, cost of transportation, imports and exports, labor-wages, loans, rents, &c. These should be made at a period early enough to render their information available in arrangements for the coming winter and spring, although its early publication might sacrifice entire accuracy to desirable promptness. To secure such a statement it would be desirable to agree upon an average yield in each circle of inquiry, and to express the yield of each district by a single percentage of the average. It should be made as early as November.

Reports of prices of land and of fruit products are usually too local for general statistics. Market reports require a wide and thorough acquaintance with national and local customs in regard to measurements. Purchases for cash or immediate delivery should be distinguished from those on time. Exports and imports are carefully collated by States having a customs-tariff, but the variety of classification renders it difficult to bring it within the range of general statistics. Uniformity of market quotations is also very important. The cost of railroad freights is also difficult to systematize on account of different prices in different countries. It is therefore best to confine the inquiry to the most important routes and to the extreme and medium rates of each year. Labor-wages present greater difficulties than, at first sight, would present themselves, on account of the variety of local influences determining the problem. The rates of interest upon loans is important and should be gathered from reports of commercial and other authorities. The number of real-estate transfers is matter of public record, but it would be desirable, in addition, to ascertain the proportion of forced sales and the general influence of transfers upon the average size of estates. Data concerning rents are not easily accessible, as these do not always represent the real value of the property.

The first great point in international statistics is uniformity of leading schedules. When governments shall adopt a common nomenclature, at least for their leading tables, and promptly publish and exchange reports, statistical inquiry will greedily seize upon them and work their statements into every desirable form. Perhaps an international bureau might be established under superintendence of the congress.

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## AGRICULTURE IN RUSSIA.

Russia in Europe is ten times as large as France and consists mostly of a vast plain, toward the center of which arise several plateaus less than a thousand feet above the sea. The country embraces vast forests, interminable prairies, and large areas of arable land of a fertility unknown



in Western Europe, yielding, with very imperfect cultivation, from 30 to 35 bushels of wheat per acre. With improved processes of culture, and an extension of railway communications, these vast capabilities of production will yet make themselves felt upon the markets of the globe.

The climate of Russia, however, is much more severe than in the same latitudes of Western Europe. Its extremes of temperature are very trying to all except the most robust forms of organic life. Widely separated from the Atlantic Ocean, exposed to north winds from the Arctic, to northeast winds from Siberia, and, in the south, to the dry winds from Central Asia, none of which bring a supply of rain, the country is exposed to frequent droughts which very greatly restrict cultivation. The new conquests south of the Caucasus Mountains, and portions of the Crimean region, are exceptions to the above statements, enjoying a regular and temperate climate.

The vast extent of Russia renders the gathering of reliable statistics a matter of great difficulty. Yet, for several years, a statistical committee has been systematically at work, with headquarters at St. Petersburg. From its patient statistical labor it appears that the aggregate area of European Russia is about 1,861,459 square miles, or 1,191,333,701 acres. From this area deducting 340,926,492 acres, the estimated surface covered by buildings, roads, lakes, rivers, swamps, heaths, commons, and waste-lands generally, there will remain 850,407,209 acres available for production, about 71 per cent. of the whole. This residue includes 468,627,562 acres of forest-lands, 241,382,474 acres of arable land, and 140,397,173 acres of grazing land.

The forest area, in regions accessible to general markets, has already suffered depletion to an extent affecting the moisture of the atmosphere, and efforts are being made to restore the balance of nature by replanting woodlands and by restricting the cutting of timber. The great mass of the Russian forests is found in the governments of Archangel, Vologda, Olonetz, Kostroma, Perm, Viatka, and Orenburg. These north and northeast departments, whose united surface is about half that of European Russia, are, for the most part, covered with forests. Some of these wooded regions, especially in Archangel, have been but partially explored. A considerable portion is known to be swampy and but little capable of cultivation. The grazing-lands are found mostly in the south and southeast. Here stock-raising will find its greatest extension. The cultivated lands are mostly in the central governments and the region south and southeast of Moscow. In Kursk, Toula, Voronége, Tamboff, Kieff, Kowno, Podolia, Riasan, and Kalouga, arable lands constitute from 50 to 70 per cent. of the whole area.

The leading crops grown on the arable lands are the cereals, especially wheat and millet. The other crops next in importance are the sugar-beet, hemp, flax, tobacco, and grapes, but all these occupy but a limited acreage; sugar-beets cover about 272,000 acres; hemp and flax, 2,470,000 acres; tobacco, 86,450 acres, &c. The vine is cultivated only in the South, and on the banks of the Don. Most of the arable land is very fertile, about 98 per cent. being designated as black land, (*tschernozieme* or *tchernozième*;) without fertilization it yields from fifteen to twenty times the seed sown. This black land produces seven-tenths of the grain-crops of the country. From late researches by Prof. P. A. Ilyenkow, of the Agricultural and Forest Academy of Petrowsky, near Moscow, it appears that this kind of land composes the north half of the government of Ssamara; the half of those of Ssimbirsk, Tamboff, and Riasan; the whole of those of Ssaratoff, Pensa, Voronége, Kharkow, Poltawa, Yekathérinosslaw, Kieff, and Podolia; and, finally, the larger portion of

Kherson, Taurida, and the Don region. This soil is noted for its black color, especially when moist; when dry, it generally becomes gray, but some varieties retain their deeper tinge throughout. This color is due to the decomposition of vegetable matter. It has been ascertained that in Ssamara 10 per cent. of the soil is composed of organic matter, and in Riasan from 8 to  $8\frac{1}{2}$  per cent. But the fertility of the soil depends not on these elements, but in a very strong mixture of mineral substances, indispensable to vegetation, which, having several times entered the composition of plants, have returned to the soil in a more assimilable form. These mineral elements do not embrace more of phosphoric acid or potash than less fertile soils, but they contain a larger proportion of soluble silicates. Partially-decomposed rock is also a prominent element in the soil.

This region embraces deposits of fossil phosphate of lime, some of which are remarkably rich in fertilizing elements. These deposits are scattered over a triangular region, of which the apex is at St. Petersburg and the other angles at Odessa and Orenburg. They lie, generally, in from one to three beds, though in some cases amounting to seven, with a variable thickness. Sometimes they crop out upon the surface, and again they are buried many feet. In some cases they occur in thick slabs, and in others in massive blocks; in still others they exhibit a nodular form. The principal deposit of Central Russia is in Kursk, where it forms a basin nearly one hundred miles long. The phosphate is here eligibly arranged for working in large slabs, about 6 or 7 inches thick, with kidney-shaped nodules on the under side penetrating the ground for several inches. In some portions of this region the practicable yield of phosphate of lime is estimated as high as 10,000 tons per acre. Analyses at different points show that from 30 to 60 per cent. of the soil is composed of this material. Other deposits, scarcely less rich, are noted in different portions of this region. It is estimated that the central zone of this region, running through Smolensk, Orel, Kursk, and Voronége, averages not less than from 6,000 to 8,000 tons of phosphates per acre, while the Tamboff deposits run from 12,000 to 24,000 tons. The exploitation of these deposits, as yet scarcely commenced, opens a wide field of industrial enterprise, promising incalculable results to Russian agriculture.

Yet, with these splendid natural resources, agriculture in this country is anything but prosperous. The soil, ever since the emancipation of the serfs, is still held in large bodies by a small number of proprietors, the large proportion of whom are but little alive to their social responsibilities, and most of them are destitute of capital sufficient for the proper cultivation of their estates. The price of land, except along railway lines, is extremely low. On the Volga River, about sixty miles from a railway terminus, farms may be purchased at less than \$1 per acre. More favored localities command as high as \$25 to \$30 per acre. The poverty of the peasantry is another barrier to agricultural progress. Their lack of capital forbids their occupancy of farms from year to year, with a systematic and recuperative culture, and hence they engage mostly as day-laborers or share-farmers. Leases of nine years are very rare; they seldom exceed two or three years. Arrangements for such a tenure must be provisional and temporary, looking to the realization of speedy returns of profit to meet the high rental. It is needless to say that such a system takes no cognizance of exhaustion of the soil.

De Fontenaye, a French traveler in Russia, states that in 1868 the black land of Ssamara yielded as high as 50 hectoliters per hectare,



about  $57\frac{1}{2}$  bushels per acre, though the average did not exceed 40 or 41 bushels. For such results it is estimated that 120 francs per hectare, or \$9 to \$10 per acre, must be invested by the actual cultivator. Allowance must be made for years of drought in which the average yield falls to 5 or 6 bushels per acre. Under such conditions, the farmer with an ordinary market realizes from \$4 to \$5 per acre on an average. A farmer owning his own land here enjoys special advantages, realizing, without speculative risk, from 15 to 20 per cent. average profit upon his investment, including both good and bad years. He is able to sell wheat at 10 to 12 francs per 100 kilograms, or from 58 to 70 cents per bushel. Agricultural hand-labor is always cheap, the wages of male hands ranging from \$40 to \$50 per annum, with board, or from \$70 to \$76 without board. Good harvesters are difficult to secure at 50 to 80 cents per day without board, or from 40 to 60 cents per day with board.

Of late years the attention of proprietors has been directed to the systematic cultivation of their estates. Institutions of credit are also springing up in some parts of Russia, which will afford the capital necessary for a more extended farming enterprise. The vast plains of Central Russia, where thousands of acres lie without a single break in the surface, will yet witness the complete success of steam-culture and of the application of agricultural machinery on the grandest scale. Improved farm-implements are brought into the country in increasing numbers. English manufacturers have devised patterns for plows specially adapted to the culture of these regions, as well as threshing-machines driven by portable engines requiring little more fuel than the refuse straw of the crops.

While cereal culture forms the basis of farming enterprise in Russia, the sugar-beet and textile plants will demand increasing attention. Sugar-beet culture is diffused through Kieff, Podolia, Tschernigoff, Karkov, Poltowa, Koursk, Toul, Orel, and Tamboff, and is enlarging its scope, especially to the westward. Three hundred beet-sugar factories have been organized, giving employment to 70,000 workmen. The necessity of importing coal, however, raises the cost of manufacturing sugar to a figure higher than in France or Germany. The quality of the product averages very high. The seed sown is mostly the white Silesian. It is thought that the extension of railways will remove most of the causes which enhance the cost of production.

Of oleaginous plants flax is most generally cultivated. It extends over all of European Russia and over part of Siberia. The total product of flax in the empire is estimated 441,000,000 pounds, and of flax-seed over 300,000,000 pounds. Hemp is largely cultivated in Central Russia. Its aggregate annual product is supposed to average about 275,000,000 pounds. The most of this home-product is absorbed by domestic manufacture. The export is almost solely of flax, that of Riga being in great esteem throughout Europe for the fabrication of linens. About 50,000 acres are devoted to cotton in Central Asia; tobacco occupies about 86,450 acres. The grape crop, in the southern provinces, average over 6,000,000 pounds per annum.

The total value of soil-products is thus averaged: Forest-products, \$120,000,000; cereals and potatoes, \$848,000,000; sugar-beets, \$4,400,000; textile plants and oleaginous grains, \$65,480,000; tobacco, \$2,400,000; grapes, \$10,000,000; total, \$1,050,280,000. Forest-products average about 26 cents per acre in gross value; arable-culture about \$3.80 per acre. What the French call "industrial plants," those forming the basis of special manufactures, yield the greatest average values.



Area and production are thus given in tabular form :

	Area.		Total value of product.	
	Hectare.	Acres.	Francs.	Dollars.
Forest products.....	189,643,300	468,418,951	600,000,000	120,000,000
Cereals and potatoes.....	96,487,200	238,323,384	4,240,000,000	848,000,000
Sugar beets.....	110,000	271,700	22,000,000	4,400,000
Textile and oleaginous plants.....	1,000,000	2,470,000	327,400,000	65,480,000
Tobacco.....	35,000	86,450	12,000,000	2,400,000
Vines.....	50,000	123,500	50,000,000	10,000,000
	287,325,500	709,694,985	5,251,400,000	1,050,480,000

## ENTOMOLOGICAL RECORD.

BY TOWNEND GLOVER, ENTOMOLOGIST.

RECENT NOTES ON THE PHYLLOXERA FROM FOREIGN SOURCES.—In November last, information was received from Henry Erni, United States consul at Basle, Switzerland, that the *Phylloxera vastatrix* had made its appearance near Geneva, and in December the following letter was received, which is published in full :

Referring you to my dispatch No. 95, about the appearance of the grape-root louse at Pregney, near Geneva, the riddle received lately an important solution, for the insect was discovered in the grape-houses of the Baron Rothschild, at his villa near Geneva. It is proved that some of these grape-vines were imported from England, in 1869, where the disease occurred in grape-houses as early as 1863. From these facts the origin of the grape-louse at Pregney appears obvious.

At the meeting of the French Academy, on the 19th of October last, Professor Dumas stated that two substances had now been discovered capable of destroying the *Phylloxera* : 1st, the sulpho-carbonate of potassa ; and 2d, coal-tar. Neither of these would injure the grape-plant. Experiments made on a large scale at Cognac and Montpellier, France, by delegates of the academy, were highly efficient. Both ingredients are cheap, for the price of a kilogram of each does not exceed one franc. The sulpho-carbonate of potassa is dissolved in water up to 37° Baumé, and 80 cubic centimeter ( $\frac{8}{100}$  liter) poured upon every diseased grape-root. The best time is in November and March, the ground at that time being moist and the insect sure to be in winter quarters. The expense per vine amounts to about 10 centimes. Applying coal-tar, each root receives about 2 kilograms of this liquid, when it will penetrate the ground about 2 feet deep. In both cases the grape-louse is effectually killed.

I am, sir, &c.,

H. ERNI,  
United States Consul.

We also give extracts from the report of the international congress of vineyardists, at Montpellier, France, October 28, 1874, on the same subject, from the Journal d'Agriculture Pratique, No. 46 :

The floor was taken by Mr. H. Marès, permanent secretary of the agricultural society of Hérault, and president of the ministerial commission. He commenced by recalling to mind the experiments of 1872 and 1873, with the *phylloxera*, which were unsatisfactory on account of the invasion of the "pyrale." In 1872 a new experimental field was selected, near Montpellier, belonging M. Michel Termand. The experiments commenced the 6th July, and comprise fifty-one methods, applied to squares of 25 vines each, the squares being separated by two rows of untreated vines, left to serve as means of comparison, and to prevent confusion in the effects of various modes of treatment. One hundred and forty methods have since been tried in the same vineyard, of which thirty-three were beneficial and nine injurious ; the others appeared to have no effect. The most beneficial were as follows, the soil being chalky and ferruginous : Potassium sulphate dissolved in urine ; a mixture of the sulphurized manure of Berre, colza cake, and ferric sulphate ; potassium sulphate dissolved in water ; potash scap dissolved in water ; soot ; a mixture of farm-dung, wood-ashes, and ammonium hydrochlorate ; cow-urine alone or with the addition of gas-tar. All the methods which have proved advantageous are also manurial, especially the salts of potash and ammonia. The injurious

methods are those insecticides not manures, as carbonic sulphide, turpentine, petroleum, gas-tar, and phenic acid not diluted. The committee came to this conclusion: that manures, especially those rich in potash and nitrogenous substances, benefited the affected vines.

The trials were continued in 1874 on the thirty-three squares already improved, one-quarter of each being left to see if the improvement was permanent. The total number of experiments made was two hundred and fifty-nine, extending over two and one-half hectares. The squares which were benefited in 1872 and 1873, have in some cases this year almost returned to their original vigor, but the *phylloxera* has not disappeared.

As regards the fruit, the following treatment has given the best results: 1. Yard-dung, wood-ashes, and sal ammoniac. 2. Yard-dung, wood-ashes, and fat lime. 3. Cow-urine and fish oil. 4. Cow-urine alone. 5. Oil-cake. 6. Potassium, sulphate, and urine. 7. Cow-urine and gas-tar. 8. Soot. 9. Sulphur, salt of Berre, ferric sulphate and colza-cake. The vines surrounding the squares treated were also visibly affected.

The experience of 1874 confirms and completes the results of 1872 and 1873, showing a diseased vine may at least temporarily be restored to vigor by energetic treatment. The commission considers itself justified in asserting that manures, rich in potash and nitrogen, mixed with alkaline or earthy sulphates, refuse of salt-works, soot, wood-ashes, ammonia, or fat lime, have increased the productiveness of the vines and allowed the fruit to ripen.

According to M. Marès the vine-disease is the result of combined causes, and subject to several conditions, viz: 1. The nature of the soil, it as affects the vine and the insect, frequently a determining condition. 2. The influence of climate on the vine, and also whether or not it favors the extension of the insect. 3. The strength or vigor of growth of the vine itself, which varies according to the variety and mode of culture. The wild vine does not perish; the stock nearest approaching it is hardly attacked.

M. Laliman spoke next, affirming that rooted American cuttings had been cultivated in localities where the *phylloxera* had as yet failed to appear, either on the American or native stocks.

M. Planchon then discussed the Americans, dividing them into three principal groups: 1. The Lambrusca; berries with foxy taste. 2. Estivalis; berries small, leaves deeply indented, wooly on the veins. 3. Cordifolia, of which the Clinton is a variety; leaves smooth, berries small. The Scuppernong, derived from the Cordifolia, attains a prodigious development, one stock covering one-third of a hectare, but it is too wild. All these resist the *phylloxera* better than our varieties, perhaps because they have not been so long in a state of cultivation. The insect does not extend its ravages beyond the small roots of the American varieties. But while the Americans do extremely well in France, they should not be imported where *phylloxera* is unknown, for fear of introducing it, as the speaker is decided in asserting that it originated in America.

M. Max Cornu gave a summary of his experiments. He confined himself to substances giving off poisonous vapors, among which sulpho-carbonates gave the best results.

M. Bouchet de Bernard, in a communication, advocated grafting French vines on American stocks, thus obtaining good wine and roots capable of resisting the attacks of the *phylloxera*. M. Leissoniere supported these ideas, asserting the positive inferiority of the American wines. M. Terrel de Chênes stated that during five or six weeks the *phylloxera* left its subterranean abode and crawled up the stock, hiding under the bark six inches above the ground. M. Douysset told how well the American vines grew at Roquemaure. And the session terminated with a communication from M. Petit, of Nîmes, who lauded the value of coal-tar against the *phylloxera*.

At 8 o'clock, 29th October, the members assembled at Comedy square, to visit the field of Las Sorres, and view with their own eyes the results spoken of by M. Marès. The experimental field should give some consolation to our brethren of the South, for the squares of green vines in the middle of general desolation show the genius of man may triumph over the *phylloxera*, as it already has over the Oidium.

The cellar of Saporta belonging to M. Violla was visited, and the excursion terminated at the vineyard of M. Gaston Bazille, near Lattes. His yards join others not yet treated for the *phylloxera*, and we can hardly describe the extraordinary difference in the vines. Here they are digging up the stocks to throw away; there they are covered with leaves and vigorous branches. A part were treated with cow-urine and calcium sulphate, a part with urine alone. In another place, submersion has been tried with success and new ditches are now being dug.

In the session of October 30 M. Lichtenstein continued an essay by M. Roessler, delegate of the Austrian government. In his country the grape-growers believe the *phylloxera* came from America. They are opposed to destroying the vines, and believe in studying the insect and fighting it with manure and phosphates, ammonia, and potash. This treatment succeeds in porous soils, and to obtain this porosity the learned delegate had made use of dynamite, raising the ground thus from a great depth without injuring the vines. He then puts some chalk and phosphorus at the foot of the stock and irrigates. A gas is disengaged by the humidity, which destroys great quantities of insects,



and by this means he obtains a crop. M. Lichtenstein added to this communication the result of his personal observations, that from the 15th August to the 15th September the *phylloxera* takes wings and departs. He was not able to distinguish the sexes, but there was a time when the insect laid an egg which gave birth to the mother of the legions which devastate the vineyards. At this time the insect is within reach, and should be destroyed. In studying the *phylloxera* of the vine the speaker discovered the *phylloxera* of the oak.

Viscount de Saint Trivier, delegate from the Rhone, gave a history of the progress of the *phylloxera* in his neighborhood, where it appeared three years ago. He pulled up his vines in April and June but found no *phylloxera*; but in July they appeared, which fact made him think, with M. Cornu, that the temperature must be at least 15° cent. He obtained good results by covering the stocks with a sort of paste made of saw-dust and coal-tar. M. Denis employed boiling water, to which he added one-tenth of tobacco-waste.

M. Loubet did not believe in medicines, but advocated patient replanting till the disease disappeared of itself, as he believed it soon would.

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## MICROSCOPIC OBSERVATIONS.

BY THOMAS TAYLOR, MICROSCOPIST.

[CONTINUED FROM THE OCTOBER REPORT.]

**CRANBERRY ROT AND SCALD.**—It has been suggested by several correspondents of this Department that an application of lime to the decaying vegetable matter composing cranberry bog-lands would increase fermentation rather than prevent the evil, and that the application of some other substance would probably prove more suitable for the purposes required. The action of lime on cranberry land differs materially from its action on farming land in general. Cranberry lands vary exceedingly in their conditions. I have found, for example, in New Jersey undecomposed peat-bogs six feet thick, charged with sulphureted hydrogen and acetic acids. On such soil cranberry vines grow vigorously, and become heavily matted. The bloom is plentiful and the fruit grows in profusion, but under continual high temperature and drought fermentation is induced in the berries, and the cranberry "rot" succeeds. On the other hand, I have found a cranberry plantation having a soil of well decomposed peaty matter six feet thick, and free from all disagreeable odor. Other conditions were also favorable to high culture, such as a plentiful supply of cool water, and cool breezes during hot weather.

Other plantations presented conditions entirely different from these. At Pemberton the cranberry vines are planted mostly in black sand, a soil composed of pure white sand and a small portion of peaty matter, amounting to only 2½ per cent. of the latter. This soil, when sufficiently moist and subjected to a proper temperature, is quite favorable to cranberry growth, and proves very profitable; but during long droughts and high temperature the berries, even on this soil, also rot. In the absence of moisture, the roots fail to sustain the organic functions of the berry, and it becomes subject to the same kind of decay and rot that are observed when a healthy berry is removed from a healthy vine and subjected to high heat of the sun. This fact is well understood by cranberry-growers. The soil which accumulates in old mill-ponds differs from the foregoing. It is composed mostly of decomposed leaves, moss, and similar substances, being a well decomposed vegetable sediment, most of which had probably fermented in the forest before it was washed by rains into the ponds. By draining the water from these ponds gradually, the sediment consolidates into the condition of humus matter.



Sometimes large trees in a state of fermentation are found in the bottom of mill-ponds, and bad soil and rotting berries have always been found in their immediate neighborhood. Pure sand, in some cases, has been used successfully in cranberry culture when irrigated with cool and running peaty water; and so also clayey sand, but with indifferent success. In one case I found a condition of soil differing from all these. It consisted of "black sand," or "savanna," as it is sometimes called, and had on its surface about three inches of a heavy, undecomposed, fermenting peat, which had been spread over it by artificial means. Lastly, cranberry land sometimes consists of a thin layer of well decomposed peat, six to eight inches in depth, but rendered useless by being charged with back water from adjacent fermenting bog-land.

In the use of lime, under such conditions, science and common sense must be exercised. In the first place, a bog consisting of six feet of fermenting muck, with a poor supply of pure running water, cannot be easily brought into the condition of pure humus matter by the use of forty bushels of lime to the acre. This amount will prove beneficial, and if the following season should have favorable climatic conditions, and additional applications should be made, more satisfactory results may be expected from its use than would occur without it; but if a long drought and high temperature should follow, the value of the lime would not be appreciable; and yet the same amount applied to a thin layer of fermenting peat, with a proper supply of water, would give marked and valuable results. The application of lime to well decomposed peaty matter or humus will not cause fermentation, but simply oxidation, producing a class of organic acids highly beneficial to plant-growth, being always combined with more or less ammonia. The application of caustic or carbonate of lime, especially the former, to savanna land, may be generally considered as injurious to it in the absence of a liberal supply of water charged with soluble humus matter; because the lime, whether caustic or otherwise, will soon destroy by oxidation the small percentage of vegetable matter contained in it. The savanna lands of the Cranberry Park Company, at Atsion, N. J., have a bountiful supply of peaty water at command, and the sour portions may be safely treated with lime in any form, while the savanna lands, near Pemberton, in the same State, require very different treatment. All the land in that neighborhood which I examined was in a healthy condition, and free from sour acid odors; but some mode of irrigation will be required to keep the soil moist during long droughts. The application of sulphate of lime—land-plaster—which absorbs water from the atmosphere, would be more favorable for such land.

It is acknowledged that the savanna lands have a great tendency to be impoverished quickly under cultivation. I would recommend the adoption of the following mode of ameliorating such land: Take any quantity of heavy peat-muck, and make a compost of it with quick-lime, turning it over frequently, and allowing the full action of the atmosphere on it. Frost will tend to pulverize it, while high temperature will favor fermentation, destroying its albuminoids. The lime will neutralize its tannic acid, and allow the proteine compounds preserved by it to pass through the stages of decomposition, converting the vegetable mass into humus matter. Any excess of lime will combine with the acetic and other organic acids present, neutralizing them. The whole mass, when dry, should be pounded or reduced by a rolling-machine to the form of powder, and spread over the surface of the savanna lands.\*

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\* The expense of collecting and pulverizing need not exceed three dollars per ton. Rolling-mills, suitable for this purpose, used in the manufacture of artificial fertilizers, may be had in Philadelphia, or in any of the other cities of the United States.

Such a course should have been taken to improve one of the extensive plantations near Tom's River, alluded to in my previous report.

There is much evidence to show that the roots of the cranberry-vine succeed best when planted in loose, porous soil. While traveling over the highly-cultivated plantation of Joseph C. Hinchman, he pointed out a number of barren spots and strips of land, which in former years had proved as well adapted to the growth of the vine as any other part of his land. Mr. Hinchman stated that persons who were employed in picking the berries, would frequently draw heavy boxes over the vines, and in this way compact the sand or soil around the roots. In other cases they would form in groups, and sit on the cranberry-vines when taking their meals. In all such places the vines ceased to grow thriftily. Col. D. Gowdy also remarked that he could not account for the comparative barrenness of the land on the edges of his artificial water-courses. He said that formerly the vines grew in profusion on them, yielding fine crops of berries. On comparing the edges of the water-courses, artificial and natural, of Mr. Hinchman with those of Mr. Gowdy, a marked contrast appeared. On Mr. Hinchman's plantation the profusion of vines and fruit growing on the margins of the stream was quite remarkable. On the banks of his principal stream the runners often extended from one to two yards in length, and were frequently seen floating on the surface of the stream, and bearing an abundance of ruby-colored fruit. When we take into consideration the fact that hundreds of persons pass over all the cranberry lands during the picking-season, it need not be surprising should a diminution of the cranberry-crop occur from this cause. While making an examination of the cranberry-plantation of Joseph J. White, near Pemberton, N. J., I failed to detect the odor of sulphureted hydrogen in the cultivated soil, but under the trodden paths I found it in abundance. In this fact we have at once a proof of the value of a porous soil, which will not only allow its deleterious gases to escape into the atmosphere, but will also permit the atmospheric air to penetrate freely to the roots of the growing vines.

In company with a committee, I visited the cranberry-plantations of John Webb, of Jackson Township, Ocean County, who was doubtless the first cultivator of cranberries in New Jersey. Mr. Webb commenced his experiments about the year 1843, although having no practical knowledge on the subject, but relying wholly on such information as he gained from newspapers coming occasionally into his hands. Living as he did in an isolated place, a few miles from Cassville, with no capital, he was embarrassed with many difficulties; still he persevered with his rude experiments, studying, as it were, instinctively the habits of the cranberry-plant, until success crowned his labors. On our arrival we found that he had just completed the plowing of his cranberry bog. His plan consisted in throwing up light furrows of vines, one on the other, without allowing them to cover one another. I believe that Mr. Webb's plan would prove very successful if applied to some of the plantations I have described, as in the case of barrenness, and when polluted with fermenting matter and sulphureted hydrogen. Bog lands covered with clayey sand would be much improved by commingling it with the peat soil, and in this way removing the clayey sand from the immediate roots of the vines. In such cases, of course, the vines should be resanded with coarse, sharp, clean sand.

## FACTS FROM OFFICIAL SOURCES.

**WHEAT IMPORTS OF GREAT BRITAIN.**—The United States, as a wheat-exporting country, more than sustains its usual preponderance among the contributors to the bread-supply of Great Britain. In a recent report we stated that this country had furnished 27 per cent. of these supplies during the period of fifteen years ending in 1872, and Russia 24 per cent., Germany, 17; France, 9; British America, 5; the remaining 18 being divided among the Austrian territories, Egypt, Denmark, Chili, and other countries. In 1873 this country's contribution is 45 per cent.; that of Russia, less than 22. In 1874, to December 31, the United States, 55; that of Russia, 13 per cent. In wheat and flour our export to Great Britain of the calendar year exceeds an equivalent of fifty-two million bushels.

Reduced to dollars, the price per cwt. of the wheat of the principal exporting countries is as follows:

	1873.	1874.
Russia .....	\$3.16	\$2.78
Austrian Territories .....	3.16	3.43
United States .....	3.26	3.07
British North America .....	3.30	2.94

The average value of maize in 1873, per cwt., was \$1.76; in 1874, \$2.11.

	Quantities.		Value.	
	1873.	1874.	1873.	1874.
<b>Wheat from—</b>				
Russia.....cwt.	9,598,096	5,714,488	£6,072,723	£3,180,723
Denmark.....do.	301,758	167,286	205,450	103,956
Germany.....do.	2,153,857	3,053,680	1,544,850	2,017,623
France.....do.	1,170,522	300,299	747,737	163,835
Austrian Territories.....do.	29,730	2,814	18,616	1,932
Turkey, Wallachia, and Moldavia.....do.	367,487	659,676	218,665	364,082
Egypt.....do.	1,260,401	293,880	697,194	172,242
United States.....do.	19,742,726	23,048,552	12,895,779	14,178,791
Chili.....do.	1,557,128	1,925,334	980,702	1,180,455
British North America.....do.	3,767,330	3,807,174	2,486,584	2,238,167
Other countries.....do.	3,802,595	2,506,277	2,578,489	1,599,256
<b>Total .....</b>	<b>43,751,630</b>	<b>41,479,460</b>	<b>28,446,689</b>	<b>25,201,062</b>
<b>Wheat meal and flour from—</b>				
Germany.....cwt.	637,243	751,366	679,885	706,039
France.....do.	1,669,356	659,568	1,598,878	606,457
United States.....do.	1,589,697	3,290,235	1,380,792	2,915,752
British North America.....do.	444,729	389,355	399,130	332,096
Other countries.....do.	1,822,235	1,139,084	1,780,512	1,149,476
<b>Total .....</b>	<b>6,204,260</b>	<b>6,229,608</b>	<b>5,839,197</b>	<b>5,709,820</b>
Indian corn, or maize.....cwt.	18,768,127	17,683,212	6,621,720	7,484,178
Indian-corn meal, (including maizena).....do.	6,836	8,511	10,570	14,405

**FRUIT CULTURE IN MICHIGAN.**—A State census of Michigan was essayed in 1874, from which is compiled the following statement of quantities of fruit grown in 1872 and 1873, with a record of the county and township making the heaviest product of variety:



Variety.	Year.	Total prod- uct.	Leading county.		Leading township.	
Apples.....bush.	1872	7,236,471	Oakland ...	517,642	Armada, Macomb.....	56,943
	1873	5,927,875	Lenawee....	423,129	Berrien, Berrien.....	43,085
Peaches.....do..	1872	318,454	Berrien.....	140,450	Benton, Berrien.....	40,883
	1873	22,031	Van Buren..	9,072	South Haven, Van Buren..	8,910
Pears.....do..	1872	33,932	Berrien.....	6,200	Saint Joseph, Berrien..	2,090
	1873	40,857	do .....	9,591	do .....	4,300
Plums.....do..	1872	6,301	Lapeer.....	693	Metamora, Lapeer.....	180
	1873	3,667	Oceana.....	373	Saint Joseph, Berrien ..	217
Cherries.....do..	1872	60,958	Calhoun.....	5,640	Battle Creek, Calhoun...	1,271
	1873	66,746	Oakland.....	8,415	Saint Joseph, Berrien..	1,431
Strawberries.....do..	1872	50,420	Ottawa.....	4,256	do .....	8,175
	1873	48,922	do .....	3,944	do .....	6,955
Currants and gooseber- ries.....bush.	1872	36,484	Branch.....	2,254	Barry, Barry.....	700
	1873	40,562	do .....	2,299	do .....	800
All kinds, except grapes, bushels.....	1872	7,743,020	Oakland.....	526,845	Benton, Berrien.....	68,502
	1873	6,150,600	Lenawee....	431,473	Quincy, Branch.....	44,272
Grapes.....lbs.	1872	2,323,500	Kalamazoo..	*3,657	Kalamazoo, Kalamazoo..	*3,368
	1873	2,960,100	Berrien.....	*5,408	do .....	*3,053

\*Cwt.

The area in fruit is reported as follows :

Acres of orcharding .....	237,061.00
Acres of vineyards .....	1,007.64
Acres of raspberry-bushes.....	946.52
Acres of strawberry-vines.....	1,647.32
Acres of currant and gooseberry-bushes.....	386.37
Total acres of fruit.....	241,048.85

The counties having the largest acreage in orchards are Berrien, 14,001, and Oakland, 12,932; and the next in order of decrease are Lenawee, Kent, Jackson, Washtenaw, and Hillsdale, the last having 9,186 acres. Those having the most acres in vineyards are, Berrien, 243; Monroe, 136; and Ottawa, 116. Berrien has 374 in raspberries and 947 in strawberries; Ottawa has 82 in raspberries, and 109 in strawberries; Muskegon, 58 in vineyards, 64½ in raspberries, and 129½ in strawberries. In currants and gooseberries, Branch is far in advance of all others, reporting 63 acres; the next in order are, Saginaw, 24¾; Muskegon, 23¾; Ingham, 20; and Berrien, 20.

The following townships, the leading producers in the years named, report the following aggregates, not including grapes :

1872.	Bushels.	1873.	Bushels.
Benton, Berrien County.....	68,502	Quincy, Branch County.....	44,272
Saint Joseph, Berrien County....	59,808	Berrien, Berrien County.....	43,085
Armada, Macomb County.....	57,405	Niles, Berrien County.....	40,112
Reading, Hillsdale County.....	55,342	Saint Joseph, Berrien County....	38,958
Almont, Lapeer County.....	50,343	Reading, Hillsdale County.....	38,316
Avon, Oakland County.....	50,055	Pittsford, Hillsdale County.....	37,323

The counties producing apples most largely are Oakland, northwest of Detroit, and Lenawee, the second from Lake Erie, in the southern tier. The greatest production of peaches in these years was in Berrien and Van Buren, the most southern counties on the eastern shore of Lake Michigan. Berrien is also first in pears both years. The leading county in plums was Lapeer, north of Oakland, in 1872, and Oceana, on Lake Michigan, in 1873. Calhoun, in the second tier of southern counties, and Oakland, lead in cherries; Wayne, (Detroit the county-seat,) in strawberries; and Branch, in the southern tier, in currants and gooseberries. Berrien is now far ahead in grapes. Apples constituting 98 per cent. of all fruits, exclusive of grapes, the apple counties are those making the greatest total production.

It is thought that less than half the orchards in the State have yet come into full bearing; many are just beginning, and many more have not yet reached that point. Hence there is a certain prospect of a rapid increase in average production.

**SUGAR-CONSUMPTION IN THE UNITED STATES.**—The annual statement of the sugar-trade of 1874, by the New York Commercial List, shows the receipt of foreign cane-sugar as amounting to 652,596 tons, against 636,497 in 1873. New York received 431,315 tons, an increase of 54,746 tons; Boston, 69,479 tons, a decrease of 24,508 tons; Philadelphia, 38,854 tons, a decrease of 14,440 tons; Baltimore, 77,201, a decrease of 19,396 tons; New Orleans, 27,141 tons, an increase of 10,903 tons; other ports, 15,606 tons, a decrease of 1,206 tons. The ton in this statement is 2,240 pounds. The foreign sugar trade appears to be concentrating at New York and New Orleans, the other ports showing a heavy decline.

The stock on hand at the beginning of 1874 and 1873, respectively, was 71,451 tons and 41,803 tons, making the total supply of the two years, respectively, 724,047 tons and 679,300 tons. Of this supply 12,045 tons were exported in 1874, against 15,124 tons in 1873, leaving the stock available for home consumption in 1874, 712,002 tons, against 664,176 in 1873. Of this available stock there were left over at all the ports January 1, 1875, 50,133 tons, against 71,451 January 1, 1874, showing the total amount of foreign sugar consumed or distributed for consumption in 1874 at 661,889 tons, against 592,725 the previous year. The increased consumption in 1874 was 69,144 tons, while the increase of 1873 over 1872 was 25,152 tons. But the consumption of domestic cane sugar in 1874 was only 48,500 tons, or 10,800 tons less than in 1873, making the total consumption of cane sugar of all sorts 710,369 tons in 1874, against 652,025 tons in 1873, and 637,373 tons in 1872. That is, the increase amounted to 58,344 tons in 1874, against 14,652 tons in 1873.

The above figures do not include the States and Territories on the Pacific coast. The consumption of cane sugar in these States during 1874 is estimated at 30,046 tons, making, for the whole country, 740,415 tons of cane-sugar. Add, for sugar made from molasses, 43,600 tons; for maple-sugar, 15,000 tons; for beet-root, sorgho, and other miscellaneous kinds, 2,000 tons; and the total amount of all sorts of sugar consumed in 1874 was 801,015 tons, against 740,525 tons in 1873, an increase of 60,490 tons, or nearly one-twelfth.

The population of the United States, according to the ninth census in 1870, was 38,500,000. Allowing 3 per cent. annual increase, about the average prior to the late civil war, and the aggregate of 1871 would be about 39,666,000; 1872, 40,875,000; 1873, 42,000,000. During 1874 the decline of foreign immigration materially checked the increase of population, leaving an aggregate of about 43,000,000. During 1870 the total consumption of cane sugar alone was 1,188,000,000 pounds, or about 30.9 pounds per capita; during 1871, 1,412,623,360 pounds, or 35.6 pounds per capita; during 1872, 1,427,715,520, or 34.9 pounds per capita; during 1873, 1,460,937,000 pounds, or 34.8 pounds per capita; 1874, 1,591,236,560 pounds, or 37 pounds per capita. Adding about 200,000,000 pounds per annum for molasses-sugar, maple-sugar, beet-sugar, &c., and the annual consumption per capita will be about 5 pounds greater than cane sugar alone, as stated above. This rapid increase in sugar consumption is one of the remarkable facts showing the drift of our civilization.

**FRENCH FORESTRY-STATISTICS.**—According to a semi-official note in the *Journal des Débats*, the total forest surface under governmental su-



pervision in France was 7,416,529 acres, of which 2,743,388 acres belong to the state, and the remainder to communes and various public institutions. Alsace and Lorraine, ceded to Germany, contained 395,257 acres of public forest land. The Orleans family had previously recovered 61,915 acres that had been confiscated, making a reduction of 457,178 acres from the former area. On the other hand, 161,598 acres belonging to the civil list of the late imperial *régime* have been transferred to the state, making the net reduction only 295,580 acres. During 1847, 147,211 acres were replanted, making the present total area of forest lands in France 7,593,740 acres, or nearly 6 per cent. of the national area. The gross revenues of the French forests average about 15 francs per acre, of which about 8 per cent. cover expenses of administration. The Prussian forest service for 1873 reports a gross revenue of 8.26 francs per acre, of which 22 per cent. are absorbed by the expenses. As the French system was originally copied from the Prussian in 1827, this difference of economic results is remarkable.

**WINE-CULTURE IN ITALY.**—The growth of the vinicultural interest in Italy during the last few years has lately manifested itself by remarkable results. At the London Exposition in 1862, of 130 kinds of Italian wine exhibited, 45 received premiums. At the Vienna Exposition of 1873, of 230 Italian wines exhibited, 101 either received a premium or an honorable mention. Italy devotes over 6,000,000 acres to vine-culture, producing, in 1873, over 870,000,000 gallons of wine. Of this amount about 250,000,000 gallons are credited to Naples and Sicily; 200,000,000, to Emilia, Umbria, and the Roman marches; 200,000,000 to the older provinces. The average price, as officially estimated by the Italian statistical authorities, was about 19 cents per gallon, making the total value of the wine-product about \$165,000,000. The value of exports of Italian wine rose from \$2,799,696 in 1871, to \$4,692,672 in 1872. France takes the largest proportion of this export; next in order, England, Switzerland, Austria, and the United States. Egypt takes a large quantity in bottles, while considerable quantities of bottled wine are shipped to Tunis, Tripoli, Brazil, and Holland.

**FRENCH SUGAR PRODUCTION.**—*Le Journal Officiel* gives the following comparative statement of sugar production of France during the last two seasons:

	1874-75.	1873-74.
Total product .....	304,323,230 pounds.	265,288,313 pounds.
Total consumption .....	124,033,247 pounds.	116,834,176 pounds.
Stock on hand October 31.....	180,129,990 pounds.	150,791,873 pounds.
Sugar-factories in action.....	514	499
Sugar-factories inactive.....	10	23
Quantity of juice defecated .....	671,025,854 gallons.	475,419,519 gallons.

Sugar-beets were more abundant, but the juice was somewhat less rich in saccharine principles. Consumption, weighed down by taxation, did not keep pace with production, whence raw sugar did not maintain prices remunerating to producers. Beet cultivators, sugar producers and refiners manifest an equal inquietude in regard to future legislation affecting the sugar industry.

**BRITISH IMPORTS OF ALIMENTARY SUBSTANCES.**—The imports of animal and vegetable food products into the United Kingdom during October, 1874, amounted to £5,823,000, a loss, compared with October, 1873, of £1,061,000. Living animals amounted to £731,000, a gain of £175,000; butter to £348,000, a gain of £135,000; cheese to £485,000, a gain of £26,000; eggs to £182,000, a gain of £39,000; salt and dried fish, £134,000, a gain of £20,000; meat, fresh and salt, to £128,000, a gain of £34,000; rice to £368,000, a gain of £3,000. On the other hand,



wheat fell off £1,047,000; flour, £83,000; lard, £91,000; maize, £235,000 potatoes, £37,000. The total gain was £432,000; total loss, £1,403,000 of which two-thirds was in wheat alone. Leaving out that cereal, the later importation shows a small net gain. This shows the beneficent influence of a large domestic cereal crop. Lower prices have made the reduction in values of larger proportion than that of quantities, which is, however, quite large.

**POTATO-CULTURE IN ENGLAND.**—The Royal Society of England has been unremitting in its efforts to stay the potato malady. One of its members, Lord Cathcart, has offered a prize of £100 for a memoir upon the disease and a complete remedy. This offer not having produced any satisfactory result, the society offered a similar prize for an early potato that would resist the malady for three years. The seed was sent to each of the great potato districts—Yorkshire, north and south, Cumberland, Tyld, in Lancashire, Marsh, in Lincolnshire, Essex, Higgam, in Kent, Devonshire, Staffordshire, Bedfordshire, North and South Wales, Morayshire, Perthshire, the Lothians, Renfrewshire, Ulster, Connaught, Leinster, Munster, and other parts of the United Kingdom. Six varieties were experimented with, but not one escaped the disease. The experimenters concur in the necessity of rejecting damp soils for potato-culture, and also agree that manure should be applied before planting. They also agree that the seed should consist of whole potatoes, of medium size, instead of fragments. The importance of this tuber in the British Isles is shown by the fact that it occupied altogether, in 1874, 1,412,851 acres, of which 520,430 were in Great Britain and 892,421 in Ireland. The product, estimated at £14 per acre, amounts nearly to £20,000,000, or \$100,000,000.

**THE ENGLISH AGRICULTURAL LABORER.**—The forces at work throughout the civilized world for the elevation of the laborer have already greatly ameliorated the condition of the English peasantry. The advance in their wages has been considerable, though unequal in different localities. The number of allotments of gardens for laborers has greatly increased. No less than 67,422 such holdings were returned in England alone in 1872. They are more numerous in the corn counties than in those mainly devoted to grazing. Educational facilities, hitherto enjoyed sparingly by this class, are more generally improved. There is beginning to be felt, as the natural though not legitimate result of this awakening, an antagonism between labor and capital, stimulated doubtless by unwise counsels of the laborers and possibly also of the Farmers' Union. The question was recently discussed quite fully in the London Farmers' Club, the leading participator being Mr. Herbert Little, from whose address the following extract is taken :

Actuated more, apparently, by silly spite than by higher motives, the present policy of the union seems to be that of wholesale deportation of agricultural laborers to foreign lands. A more dangerous game could scarcely be played, or one less likely to fulfill the intentions of its promoters. Far better would it be to encourage migration to the fullest extent from overstocked country districts to those home centers of manufacturing industry where labor is already at a premium. There is the danger that if within reach of their native soil they may at any time be deluded into the idea that after all they were as happy and well off there, and that they may feel a desire to return. But get them well out of their native land, argue their present advisers, and not only is there little fear of their return to trouble us, but those who are left behind immediately become worth higher wages. But this consequence by no means necessarily follows, while the great impetus given to emigration may be succeeded by a reflux or paralysis which may entirely upset the calculations of the emigrants' friends. There is even danger that a reaction may set in against emigration altogether, if the hordes of unskilled rustics who are now being shipped off almost against their inclination, should fail to find in the countries to which they are exiled the blessings promised by their unscrupulous advisers. Already America complains of a surfeit of unskilled

and even of expert workmen, and it is far from improbable that the time is at hand when the re-emigration of large bodies of men from the United States to this country may counterbalance all the efforts of the union for the depopulation of our rural districts. A far stronger power than any wielded by farmers' or laborers' unions will, in the long run, regulate with inexorable precision the interchange, and determine the localization of human labor. I allude to the simple law of supply and demand.

**AGRICULTURAL IMPROVEMENT IN AUSTRIA.**—The Austrian minister of agriculture reports that special encouragement has been given to various special cultures. The organization of agricultural instruction, the breeding of horses, the constitution of studs, and, finally, rural administration, properly so called, have received special attention. A traveling professor has been appointed to visit the different viticultural districts of Dalmatia, to hold conferences upon the manufacture of wine. He was specially charged to call attention to the value of associations for this purpose. The forestry school of Maria-brunn has increased its pupils 50 per cent. Its course of instruction embraces lessons in the woods, as well as in the laboratory. Local associations have been more active, and have presented an unusually interesting class of discussions.

**FRENCH AGRICULTURAL STATISTICS.**—The French government is endeavoring to secure the prompt annual publication of a volume of national statistics, embracing movements of population, wages, benevolent institutions, public and private charities, agricultural and industrial statistics, &c. The latest issue, however, represents only the year 1871. From its statements it appears that cereal culture occupied 28 per cent. of French territory, or 14,896,525 hectares out of 52,857,657, the hectare being equal to 2.4711 acres. Their production had risen to 681,000,000 bushels, beside 253,000,000 quintals of straw, with an aggregate value of 5,000,000 francs. Wheat occupied 48 per cent. of the acreage devoted to cereals, and produced one-half their total value. Next stood oats and rye, and then barley, buckwheat, and maize; but the last three covered but 18 per cent. of the cereal acreage, and produced but 14 per cent. of its annual value. During the year agricultural disasters footed up a loss of 118,207,236 francs, of which 38,812,953 francs represented losses from fire; 47,576,202 francs, from hail; 4,763,992 francs, from inundations; 27,054,088 francs, losses in farm-animals. In addition to the above it is stated that losses from frost aggregated 112,500,000 francs, and animal diseases, 18,000,000 francs.

**BRITISH COLONIES IN AUSTRALIA.**—The following statistics of the colonies named are from official reports for the year 1873:

Colonies.	Population.	Acres cultivated.	Horses.	Cattle.	Sheep.	Pigs.
Victoria .....	790,492	964,996	180,342	883,763	11,323,080	160,336
New South Wales.....	560,275	456,825	328,014	2,710,374	10,928,590	238,342

The taxation per head of population was, in Victoria, £2 4s. 10 $\frac{3}{4}$ d.; in New South Wales £2 9s. 4d. In the former the value of the total imports was £16,533,856; total exports, £15,302,454. In the latter, imports, £11,088,388; exports, £11,815,829. In Victoria, miles of railway under construction, 145; of telegraph open, 3,870; under construction, 210. In New South Wales, of railway under construction, 58; of telegraph open, 6,521; under construction, 912. In Victoria the increase of population in the ten years following 1861 was 35.4 per cent.; the increase of males, 22 per cent.; of females, 56 per cent.

**SIZE OF BRITISH FARMS.**—According to the agricultural returns for 1873, the average area under crops, fallow, and grass in each holding, or separate tenure, was in England and Scotland 56 acres, and in Ireland 26. This was exclusive of land let in "allotments," that is, small patches assigned to laborers to be cultivated for themselves, out of work-hours. In the eastern counties of England the average extent of holdings was, for the most part, higher than the general average, being, in Cambridge, 59 acres; Essex, 82; Huntingdon, 69; Lincoln, 55; Norfolk, 56; and Suffolk, 72. A comparison of the census taken in 1871 with that of 1851 shows a diminution in the number of small, and a corresponding increase in the number of large farms. In 17 representative counties, out of 59,870 farmers making returns in 1871, 12,075 cultivated less than 20 acres; in 1851, these counties returned 12,941 of this class; in 1871, of farmers holding not less than 50 and less than 75 acres, 6,370 were returned; in 1851, 8,253 of the same class; of farmers holding less than 100 acres, in 1871, 33,162 were returned; in 1851, 39,139. On the other hand, the number of farms of 300 acres and upward, in 1851, was 7,771; in 1871, 8,410; the number containing 500 acres and upward, in 1851, 2,755; in 1871, 3,194; the number of 1,000 acres and upward, in 1851, 492; in 1871, 582; of 2,000 acres and upward, in 1851, 64; in 1871, 90.

**IMPORTS OF HAVANA.**—The importations of the articles named into Havana between January 1, 1865, and September 30, 1874, were as follows:

Years.	Jerked beef.	Flour.	Lard.	Hogshhead-shooks.	Box-shooks.	Boards.
	Quintals.	Barrels.	Quintals.	Number.	Number.	Thousand feet.
1865.....	256, 874	196, 831	55, 926	24, 214	291, 028	5, 872
1866.....	197, 210	325, 270	83, 651	19, 860	248, 680	10, 928
1867.....	247, 000	147, 565	96, 808	21, 891	469, 304	8, 223
1868.....	296, 104	144, 020	128, 028	38, 749	491, 298	12, 802
1869.....	238, 014	175, 620	156, 938	72, 090	362, 850	8, 947
1870.....	185, 878	257, 144	141, 347	46, 961	495, 554	14, 795
1871.....	205, 987	192, 577	68, 868	49, 034	868, 976	11, 683
1872.....	143, 593	179, 235	26, 580	43, 685	541, 686	24, 663
1873.....	208, 497	233, 543	82, 647	22, 228	596, 285	18, 511
1874.....	235, 408	357, 409	121, 907	9, 173	330, 672	9, 118
Annual average.....	220, 718	220, 622	96, 380	35, 017	431, 079	13, 015

**FOREIGN TRADE OF THE UNITED STATES.**—The following table shows the values of our imports from, and of our domestic and foreign exports to, the countries named for the fiscal year ending June 30, 1874:

Countries.	Imports.	Domestic ex-ports.	Foreign ex-ports.
Great Britain and Ireland.....	\$193, 595, 330	\$373, 566, 508	\$7, 587, 644
British North America.....	38, 158, 004	42, 505, 914	4, 589, 243
British West Indies.....	5, 024, 911	9, 472, 948	210, 441
British East Indies and Australia.....	15, 929, 841	4, 268, 906	68, 844
British Possessions in the Mediterranean and Africa.....	2, 023, 281	4, 060, 794	26, 516
France.....	51, 771, 109	48, 729, 429	739, 024
French Possessions in America.....	1, 444, 940	1, 385, 356	19, 060
French Possessions in Africa.....	149, 339	135, 569	29, 390
Spain.....	4, 598, 204	11, 643, 715	9, 423
Cuba and other Spanish Possessions.....	99, 468, 498	21, 861, 834	2, 164, 758
North German Union.....	44, 074, 252	64, 344, 622	1, 369, 088
Holland.....	2, 516, 623	13, 712, 846	202, 578
Dutch West Indies.....	1, 654, 960	992, 001	40, 730
Dutch East Indies.....	3, 857, 706	451, 462	122
Denmark and Danish West Indies.....	457, 390	2, 430, 791	22, 156
Russia and Russian Possessions.....	1, 257, 170	10, 284, 803	15, 937
Austria and Austrian Possessions.....	488, 642	1, 682, 249	5, 972
Portugal.....	506, 135	1, 553, 042	25, 819



**SILK PRODUCTION IN EUROPE.**—In the report for 1872, of the *Commission des Soies*, read before the *Société d'Agriculture, Histoire naturelle et Arts utiles*, of Lyons, is found a summary of the status of silk-culture in France and other parts of the world. During 1871, in France, 100,000 ounces of silk-worms' eggs, treated according to Pasteur's method, averaged 30 kilograms, or 66 pounds of cocoons per ounce, the best results indicating double the average. The aggregate product of eggs treated by this process was 6,600,000 pounds of cocoons, representing a value of 18,000,000 to 20,000,000 of francs. It was used on a large scale and with great success in Italy and Austria. During 1871 silk production, as a whole, indicated superior crops both in quantity and quality in France, Spain, and the Levant, equaling the results of 1860, with, perhaps, a slight depreciation in quality. Japanese eggs were the most reliable, but native eggs were produced in such quantity as to revive the hope of reproducing the old French worms in a healthy and robust condition. In the seven leading silk-producing departments of France 505,290 ounces or cards of eggs had been hatched during the year, of which 328,790 were Japanese and 176,600 were native-bred. The gross product of cocoons was 16,217,411 pounds, averaging 32 pounds per ounce of eggs. In ten departments, including the above, the average of the whole was reduced to 28.6 pounds, but about one-third failed to germinate, otherwise the average would have been 43 pounds. The most satisfactory results for native eggs were obtained in the departments of Var, the Alps, and the Eastern Pyrenees. The native eggs also were less costly than the Japanese. Official statistics gave the aggregate number of silk-growers at 139,922, of which 103,621 were operating in a small way and the remainder on a large scale. These ten departments produced nine-tenths of the entire yield of France, which was estimated at over 23,000,000 of pounds.

The Chamber of Commerce of Turin estimated the crop of Italy at about 43,827,000 pounds. In spite of the intelligent efforts devoted to native insects, but partial success had been realized, the best results having been obtained with Japanese eggs—especially the green varieties.

The statistics of 1872 embrace twenty departments of France, in which 807,261 cards of eggs were placed to hatch, but not over half germinated. Of the eggs used 61 per cent. were Japanese, 29 per cent. native, and 10 per cent from other countries. The greatest success in hatching was found in Var and the Basses Alpes. The loss from failure to hatch was there about 50 per cent. greater than in 1871. The principal causes of this failure were defective hibernation, cold and rain at the commencement of the hatching period, bad selection of eggs, &c. The largest loss was in the Japanese eggs. The total product was 22,070,384 pounds of cocoons, averaging about 26 pounds per ounce of eggs hatched. The averages ranged from 80.5 pounds in Hautes Alpes to less than 10 pounds in Loire. The product of raw silk was estimated at over 1,400,000 pounds. Of the cocoon product, about 246,727 pounds were devoted to the reproduction of eggs, yielding not quite an ounce of eggs to the pound of cocoons, or 231,350 ounces on the whole. Most of this branch of reproduction was in the Basses Alpes, Gard, Drome, Ardeche, and Vaucluse. The market price of Japanese cocoons was from 2.8 francs to 2.9 francs per pound; native, from 3.4 francs to 3.8 francs. The average price of eggs was 14 francs to 16 francs per ounce. The cocoons were perceptibly dearer in 1872 than in 1871, though the eggs were cheaper. Mulberry leaves were sold at about 1 franc for 220 pounds. The official census returned 199,306 silk-producers, of which 35,766

hatched over 5 ounces. The average consumption of the whole number was 4.05 ounces, and the average product was 108.94 pounds of cocoons.

In Spain the largest portion of the crop was from Japanese eggs, which have been quite successful in that country; the progeny of the imported eggs generally improve in size and quality upon their parents; they are generally green. A native yellow breed, raised in the mountains, is highly esteemed. Some Chinese cocoons are well spun, but are deficient in weight of silk. The aggregate product was 5,296,000 pounds of cocoons, from which about 384,000 pounds of raw silk were realized.

The crop of Syria was estimated at 3,771,800 pounds of cocoons and 236,900 pounds of raw silk.

The crop of Broussia was 2,644,800 pounds of cocoons, yielding 170,580 pounds of raw silk.

Greece produced about 2,248,000 pounds of cocoons.

Volo and Salonica, in European Turkey, exported 330,000 pounds of dried cocoons, equivalent to about three times that quantity of fresh ones and to 72,600 pounds of raw silk.

Italy stands at the head of silk production, excelling in scientific study, practical methods, sericultural stations, and publications of all sorts. From the report of the minister of commerce and agriculture, it appears that in Piedmont the breeding of silk-worms was very satisfactory, the best results being obtained with imported Japanese eggs, though some of these failed to germinate on account of imperfect preservation. Their progeny have had various success in reproduction, in some cases excelling the parent breed. The product of cocoons in Piedmont averaged from 55 to 66 pounds per ounce of eggs. In Lombardy, the yield was still better than in Piedmont; the reproduced eggs gave better results. The cocoon product averaged nearly 80 pounds per ounce of eggs for Japanese and 44 for native eggs. The crop was satisfactory in Venetia, where the market-prices were enhanced. In Liguria, where reproduced eggs were more generally used, the result was, on the whole, good. The silk industry of the kingdom was generally prosperous in spite of the failure to germinate in many localities, though a newspaper published at Turin, *Il Commercio Italiano*, thinks the official figures too glowing for the reality. The native white and yellow breeds and the reproduced Japanese were not generally successful.

**BROWN COUNTY, MINNESOTA.**—The following items are condensed from a communication from the secretary of the agricultural association of this county: Quite a number of the farmers insured their crops in the Wisconsin Mutual Hail Insurance Company. In June last a hail-storm did extensive damage, and the insured received as indemnity sums ranging from \$25 to \$800. The secretary thinks the liabilities to damage from hail-storms are so great throughout the Northwest that the practice of insuring crops against them should become general. But much greater damage was done in the county last season by grasshoppers than by hail. Three towns raised about half crops, and the remainder from that down to nothing. Corn was damaged the least; many farmers had full average crops; the secretary, 50 bushels shelled corn to the acre. The association has introduced a new variety of mammoth squashes, from which specimens have been raised ranging from 70 to 125 pounds each. They are reported good for stock, but too watery for cooking. Buckthorn plants, one year old, purchased and set last spring, have done well, and promise to meet a want for hedges. The attention



of the association has been directed to the lupine raised in Northern Germany as a green crop to plow under. He recommends its more extensive use in that region, and says: "It grows luxuriously on poor sandy soil, where no other vegetable will grow; making it an excellent renovator of poor and worn-out soil." He adds: "There is no scarcity of hay, and no disease among stock, but many farmers suffer for want of food for themselves."

**INDUSTRIAL ASSOCIATION IN WASHINGTON TERRITORY.**—Our correspondent in Thurston County reports that the Western Washington Industrial Association has recently purchased, at Olympia, grounds sixty acres in extent, on which to hold annual fairs, and that \$3,000 will be at once expended in permanent improvements. The site has a supply of water and fine scenery, including a beautiful bay, snow-capped mountains, &c. The association, of which Dr. J. C. Kellogg, of Seattle, King County, was president for 1874, was "organized to develop the resources of Washington Territory."

**MODES OF COOKING RICE IN INDIA.**—Rice, the staple food of India, is prepared in numerous styles; among these are the following methods, used by the natives of Bengal: First, paddy (unhusked rice) is soaked in cold water twenty-four hours, after which it is dried in the sun, and when sufficiently dry to bear the process is husked in a tread-mill. In the process the grains broken by husking are separated by a fan from the unbroken. Second, the paddy is first soaked in water, then boiled, dried, and husked; different varieties require to be soaked for periods of different length. If the paddy is oversoaked, the rice is dark-colored; if overboiled, it is coarse in appearance; if overdried, it is much broken. Third, the paddy is parched. In this process the grain in parting with its moisture swells up to about four diameters, becomes very light and white in appearance, and the husk is split and separated from the desiccated, puffed grain. Fourth, "flattened paddy." This is first boiled well, and then, after being slightly dried, under the pestle of the tread-mill is husked and flattened at the same time. Fifth, parched rice. The husked rice, being slightly wet with water and salt, is placed on a parching-pan or sand-bath, (the latter gives a better flavor to the rice,) and being briskly stirred, it immediately swells to about one and a half diameters, and becomes anhydrous and blistered by the escaping moisture. But if the rice is cured by boiling the paddy twice before husking, then moistening the husked rice with salt and water and drying it by fire, it is made to contain sufficient moisture to swell the grain when parched to three or four diameters. The foregoing preparations are all white and light. They are eaten generally with salt, pepper, and mustard-oil. Khai (parched paddy) is specially suited for the sick as a healthful, dry, and light food. Confections are made of it with syrup of sugar, syrup of molasses, a variety of spices and condiments, in various forms. Sixth, boiled rice, called bhat. This is the principal food of the natives. "A Bengali, however richly fed, does not feel satisfied unless he takes his usual bhat; meat, fishes, soups, dols, curries, and chatnies, however varied and nicely prepared, are aids and secondaries to bhat." The modes of cooking boiled rice, either alone or in connection with other articles of food, as milk, sugar, and almost every kind of indigenous fruit and vegetable, are too many and diversified to afford room here for description. Rice also enters as an ingredient into a great variety of confections.



**CAROLINA RICE IN INDIA.**—An official report of a highly successful experiment in cultivating Carolina rice in India is published. The experiment was made in Punjab, on canal-irrigated land. From  $3\frac{1}{2}$  seers the yield was 17 mounds, "or about 5 mounds per seer." As there are 40 seers in a maund, this is two hundred fold. The experimenter states:

The grain of the Carolina rice is much larger than that of the India rice, and, on boiling the two together, it was found that the former was done sooner, was much larger, of a whiter color, and possessed a sweeter flavor. The plant of the Carolina rice is equal to that of good India wheat, but stronger, not being liable to be thrown down by a strong wind or rain.

**GOVERNMENT GARDENS IN INDIA.**—The following statements are condensed from a report for 1873-'74 of the superintendent of the government gardens at Ootacamund, presidency of Madras, India. All newly-imported vegetable-seeds are first tested in the gardens, and those specimens which do not germinate well are destroyed. Hence, those distributed during the year gave general satisfaction. Seeds received from Landreth & Son, of Philadelphia, are noted as germinating well, and "some kinds grew more rapidly than the English seeds." In July, 1873, the government added to the gardens a new tract, to be "devoted to the cultivation of specimens of the choicest varieties of coniferous plants likely to succeed in the climate of the Neilgherries." The soil upon trial proves to be well adapted to the pine and fir tribes; upward of 400 trees of select varieties have been planted, and all are doing well. New varieties, imported from Europe and Australia, were to be added the coming season. Among plants cultivated in the gardens during the year were eight new varieties of the flowering shrub, *Camellia*, imported from England, and doing well—"easily propagated, either by cuttings or layers, and require little care when once established." Several species of oak, from Australia; varieties of strawberries, also from Australia, with very encouraging results; the *Rhea*, a valuable fiber-yielding plant, and seedling-potatoes. A large number of the latter were raised from seeds imported from America, some of which promise to be valuable for cultivating on the hills. With reference to frequent applications from all parts of India, for trees from Australia, especially the *Eucalyptus globulus*, the report states:

For all purposes requiring strength and durability, few timbers in the world can compare with those of Australia. This superiority over other timber lies in their tougher and more closely packed tissues. Other advantages, possessed by such timber as the different species of iron-bark, are their flame-resisting qualities. Lately the *Eucalyptus globulus* has attracted much attention, not only for the value of its timber, but as possessing wonderful medicinal properties.

The distributions during the year included 4,475 packets of flower and vegetable seeds; 6,877 flowering plants and shrubs; 2,528 timber-trees, and 471 fruit-trees.

**AN IMPORTANT INQUIRY.**—In Great Britain a prize of 25 guineas has been offered for the best essay on "The application of sanitary science to rural districts, with a view to insure the highest condition of health and the prevention of disease." The successful essay is to be the one which best presents the following points: First, means practicable and easy of application for securing a supply of pure water and the discharge and disposal of refuse; second, the most simple plan of rural organization for securing cleanliness and pure air within and around dwellings; third, the best means of carrying out the objects specified under the most varying circumstances.

**ILLINOIS ORCHARDS AND WOODLANDS.**—The State board of equalization report that the number of acres in orchards returned by county

assessors in Illinois in 1872 was 320,702; in 1873, 334,067; increase, 13,365 acres. The number of acres of woodland in 1872, 6,289,236; in 1873, 6,928,061; increase, 638,825 acres.

**COLLEGE-FARM EXPERIMENTS.**—Mr. B. F. Johnson, in charge of farm experiments in the Illinois Industrial University at Champaign, has issued a programme of proposed experiments. In it subjects for experiment are designated under seven heads; cereals; clovers, and grasses; the industrial and commercial plants; roots; vegetables; commercial and other manures; and fertilizers. A condensed statement of the more important modes and results arrived at follows: For corn, the great crop of the State, seven distinct experiments are designated; first, to obtain and test seed of two large varieties from South America; the Caragua, unlike any corn cultivated in Illinois, but, where grown, greatly valued for soiling; and the Casco, a giant kind, with a view by crossing to enlarge and invigorate varieties now in use; second, to give an acre the best known fertilizing, culture, and care, with a view to the largest possible yield; third, in a five-acre patch, to give every alternate eight rows deep and thorough cultivation continued up to maturity; but the other half, only “the common cultivation” terminated at the usual time; with a view to decide the extent in thoroughness and duration, to which cultivation may be profitably carried; fourth, in a five-acre patch, with strips of rows alternated in the same way, to terminate cultivation in alternate strips with the soil turned up to the rows and a high ridge between them; but in the other half with the surface-level; fifth, in a five-acre patch, alternating the same way, to treat one-half with deep, but the other with shallow, cultivation; sixth, to plant together several of the largest and best kinds, of different complexions, and from the product select the best ears, regardless of color, for the next seeding, and so on, with a view to ascertain “the true tendency in color, size, and quality, when nature makes the selection;” seventh, to plant one of the best varieties as remote as may be from other corn-fields with a view to test the practicability of keeping any one kind unmixed. Without specifying modes, experiments are proposed with spring-wheat, “quite a doubtful crop in Central Illinois,” spring-rye, “a rare crop,” and oats, with the aim of rendering a doubtful crop more certain, a rare one more general, and improving one already general and profitable. Trials of barley-seed from abroad are proposed with the design of ascertaining why it is now a very doubtful crop, and whether success is practicable; and of buckweat, also very doubtful, by sowing the common and the silver-hull varieties two or three weeks earlier than the usual time; tests of alfalfa, lucerne, Italian rye-grass, and orchard-grass, with a view to discover grasses for pasture and forage which will withstand droughts. Under “commercial and industrial crops” experiments are proposed with cotton, flax, hemp, hops, and tobacco; under “vegetables,” potatoes are assigned a prominent place, and next to them cabbage.

**SWINE IN HUNGARY.**—From an improved breed introduced from Serbia, about 1840, have been gradually reared up two distinct varieties which now constitute the current stock of swine in Hungary. “One of these breeds has pale, yellowish bristles; the other is black, with a lighter shade only toward the belly.” These hogs are covered in summer with a smooth “hair-coat,” but in winter with “thick curly hair,” which serves as a protection against rough weather. The season for producing pigs is usually limited to the month of January. The sow produces a litter of from five to eight. They do not attain full growth short of



twenty months. At that age breeding-sows begin to bear and continue until the seventh year. The sows are fed on barley-meal until the pigs are about a month old, after which they are fed once a day only, three to four pounds of corn, being driven to pasture forenoon and afternoon. At six or eight weeks the pigs are weaned. The ma's having been castrated, they are driven as early as April, when the weather is favorable, to pasture, or rather with the better breeders, to fields or lucerne or clover provided for them. They, however, continue to receive some grain until the stubble-fields are open to them. In autumn they are driven to the forests, and in many localities they return the last of December half-fattened on acorns. They are then sold to persons who make a business of fattening. Swine are rated as "half-fat" at 300 pounds; when they reach 400 to 460, they are reckoned as "prime ware," and are sold as pork, 40 pounds being deducted from live weight.

The annual export of swine from Hungary, as far back as 1840, did not exceed 350,000 head, much the largest part being transit trade. From 1860 to 1865 it averaged 422,000 head per annum, more than 200,000 of which were bred in Hungary. Success gave increased impetus to the business. The chief feeding-place, a veritable pig-town, arose in the neighborhood of Buda Pesth, at Steinbruch. In 1872, at the latter place, the import amounted to 549,620 head; the export, 520,130. The value of the imported pigs was \$14,660,235; value of maize consumed, \$2,200,000; total, \$16,860,285; value of exports in fattened pigs, \$16,635,285.

TRICHINA.—Mr. Charles G. Boemer, of Vervay, Switzerland County, Indiana, reports to this Department the result of microscopic examinations recently made by him to determine whether pork in that locality was affected with this parasite. Out of 187 slaughtered hogs examined, 11 were found to be affected. Three of these contained encysted *trichina spiralis*, and eight, various other forms. The parts examined were the ham, shoulder, and tenderloin. A magnifying power of from 50 to 100 diameters most distinctly revealed the parasite when present; a higher power cut off the light too much. He also found in the muscles of a rat he examined, trichina identical with those in the flesh of the swine.

AGRICULTURE IN UTAH.—A correspondent in Kane County, Utah, reports as follows: Last season fruit of almost all kinds in that locality yielded 25 to 50 per cent. above the average; sweet-potatoes yielded in some places about 4 tons to the acre; wheat, corn, cotton, sugar-cane, and all other crops were full average. Farmers in almost all parts of the Territory are forming co-operative companies, and those who worked on that system last year did well.

CONSUMPTION OF PAPER BY DIFFERENT NATIONS.—Signor Eugenio Morpurgo estimates that the Russians consume paper at the rate of 1 pound per capita per annum; the Spaniards,  $1\frac{1}{2}$  pounds; the Italians,  $3\frac{1}{2}$ ; the French, 7; the Germans, 8; the English,  $11\frac{1}{2}$ ; the Americans, 171. He states that there are in the whole world 3,960 paper-making establishments, the aggregate annual product of which is estimated at 1,809,000,000 pounds of paper. One-half is used for printing, one-sixth for writing, and the remainder for packing.

EXHAUSTIVE WHEAT-CULTURE.—Our correspondent in Stearns County, Minnesota, presents the following trenchant statistical facts to illustrate the impolicy of the exclusive devotion to wheat-culture which has so seriously injured the farming interest of the Northwest. For six



years past wheat in Stearns County has not averaged over 14 bushels per acre, nor over 70 cents per bushel, making the average money product per acre \$9.80. The average cost of cultivation—including 1½ bushels of seed, \$1.40; plowing, \$1.75; seeding and harrowing, \$1; harvesting, thrashing, and stacking, \$5.30; and hauling to market, \$1.25—amounts to \$10.70, showing a net loss of 90 cents per acre, without allowing for interest on investment, wear and tear of machinery, &c., which would enlarge the debit balance still further. To work a farm of 60 acres on this principle would bring the farmer in arrears annually \$114. "Is it any wonder that mortgages are accumulating and western farmers are complaining of hard times?" Our correspondent thinks that this destructive system is passing away, and that a new era is dawning in which farmers of that region, by diversifying their industry, will place the balance on the other side of the ledger.

**ANTIDOTE FOR SMUT IN WHEAT.**—Our correspondent in Douglass County, Oregon, fully indorses the recommendation of our correspondent in Sonoma, Cal., in the October report, in regard to soaking seed-wheat in a solution of sulphate of copper. The only amendment he suggests is to increase the proportion from six to eight ounces of the drug to the cental of seed.

**WINE-PRODUCTION IN SOUTHERN FRANCE.**—At the session of the International Viticultural Congress, in October, 1874, at Montpellier, France, M. Saint Pierre, professor in the medical school of that city, by invitation, gave some facts in regard to the fabrication of imitated wines, a branch of business which had of late rapidly developed in Hérault, especially at Cette and Mèze. The product of this manufacture is mostly exported, the bulk being sent to Russia, Denmark, Holland, England, and North and South America. Cette alone makes nearly 8,000,000 gallons per annum, worth about 15,000,000 francs. Two-thirds of this aggregate are consumed in America. The only wines that can be successfully imitated are those rich in alcohol, such as the wines of Spain and Portugal. It is not true that grape-juice is the only thing omitted in the composition of these wines, as that is the cheapest ingredient. Nor is coloring matter used to any extent, as the wines to be imitated are white. The Portuguese formerly colored their wines with elderwood, but abandoned it on finding that it injured the wine. The imitation of Spanish wines utilizes a large amount of cheap wines in the south of France, the production of which has been stimulated of late years. These wines show scarcely 11 degrees of alcohol, but with the addition of sirup of mulberry and alcohol the strength is raised to 21 degrees. The professor, with great *naïveté*, pleads for the encouragement of this industry.

Some difference of opinion was manifested in regard to the use of sulphuric acid in fermentation. It was contended that in very small proportions it could be used with advantage and without danger. Others thought that it should be combined with gypsum, thus securing a double decomposition, in which an equivalent of tartaric acid was evolved, which is the natural acid of the wine. It was objected that the sulphuric acid of commerce is too often charged to a dangerous extent with arsenical principles.

The members of the congress visited Cette and Mèze, and inspected several manufactories. One of the largest at Cette had then stored over 280,000 gallons in cellars containing from 80,000 to 100,000 gallons each. The total value of the whole deposit is stated at a million francs. The cost of storage, including casks, &c., amounted to 650,000 francs, at 10

francs per hectoliter. Vineland, in the neighborhood, yields 800 francs per acre in wine product, representing a cash value of 10,000 francs per acre invested in the soil. If the phylloxera should compel the destruction of these vines, the value of the land will sink to one-fifth of what it is at present. At Méze one establishment astonished the visitors by the vast extent of its cooper-shops, and its steam-engines of great power pumping the wine from great cisterns into the casks. This extensive use of machinery has superseded in a large measure the expensive hand-labor formerly employed. In the south of France six hours is counted a day's work. A radical change in the conditions of labor is foreshadowed in this primitive region. Combinations of workmen have at times elevated the day's wages to 10 francs for six hours' work. The congress also inspected the process of imitating Spanish wines.

### MARKET-PRICES OF FARM-PRODUCTS.

*The following quotations represent, as nearly as practicable, the state of the market at the beginning of the month:*

Articles.	Prices.	Articles.	Prices.
NEW YORK.		BOSTON.	
Flour, superfine State...per bbl.	\$4 00 to \$4 50	Flour, western superfine...per bbl.	\$4 00 to \$4 50
extra State.....do....	4 80 to 5 65	common extra.....do....	4 50 to 5 00
superfine western.....do....	4 00 to 4 50	red wheats, good to fancy	
extra to choice western,		northwestern...per bbl.	5 25 to 9 00
per barrel.....	4 75 to 8 00	white wheats, good to	
common to fair southern		fancy western...per bbl.	5 00 to 8 00
extra.....per bbl.	4 90 to 5 85	southern family.....do....	6 50 to 8 00
good to choice southern		Wheat.....per bush.	— to —
extra.....per bbl.	5 90 to 8 25	Corn.....do....	90 to 92
Wheat, No. 1 spring...per bush.	1 20 to 1 25	Oats.....do....	66 to 72
No. 2 spring.....do....	1 11 to 1 17	Rye.....do....	1 00 to 1 05
winter, red, western,		Barley.....do....	1 20 to 1 60
per bushel.....	1 20 to 1 32	Hay, eastern and northern, per	
winter, amber, western,		ton.....	10 00 to 23 00
per bushel.....	1 20 to 1 32	choice western...per ton.	22 00 to 23 00
winter, white, western,		Beef, mess.....per bbl.	10 50 to —
per bushel.....	1 30 to 1 37	extra mess.....do....	13 50 to —
Rye.....per bush.	92 to 95	family.....do....	16 00 to 17 00
Barley.....do....	1 40 to 1 60	Pork, prime.....do....	18 00 to —
Corn.....do....	86 to 97	mess.....do....	21 00 to 21 50
Hay, first quality.....per ton.	14 00 to 19 00	Lard.....per lb.	14 to 14½
second quality.....do....	13 00 to 14 00	Butter, New York and Vermont,	
Beef, mess.....per bbl.	9 50 to 10 50	per pound.....	32 to 40
extra mess.....do....	11 00 to 12 50	western.....per lb.	22 to 37
Pork, mess.....do....	19 75 to 20 50	Cheese, New York and Vermont,	
extra prime.....do....	17 00 to —	factory.....per lb.	13 to 16
prime mess.....do....	19 00 to —	western factory.....do....	12 to 15½
Lard.....per lb.	13½ to —	Sugar, fair to good refining...do....	8½ to 8¾
Butter, western.....do....	18 to 33	Cotton, ordinary to good ordi-	
State dairy.....do....	30 to 42	nary.....per lb.	12½ to 14
Cheese, State factory.....do....	14 to 16	low middling to good	
western factory.....do....	12 to 15½	middling.....per lb.	14 to 15½
Cotton, ordinary to good ordi-		Wool, Ohio and Pennsylvania,	
nary.....per lb.	11½ to 13½	per pound.....	53 to 60
low middling to good		Michigan.....per lb.	50 to 52
middling.....per lb.	13½ to 15	other western.....do....	45 to 52
Sugar, fair to prime, refining,		pulled.....do....	40 to 55
per pound.....	8½ to 8¾	California.....do....	— to —
Tobacco, lugs.....per lb.	10½ to 13½	PHILADELPHIA.	
low leaf to medium		Flour, superfine.....per bbl.	3 75 to 4 00
leaf.....per lb.	12½ to 17	Pennsylvania, extra to	
Wool, American XXX and pick-		choice.....per bbl.	4 25 to 5 75
lock.....per lb.	53 to 65	western extra to patent,	
American X and XX, per		per barrel.....	4 25 to 7 12½
pound.....	47 to 57	Wheat, white.....per bush.	1 35 to 1 40
American, combing, per lb.	51 to 65	American.....do....	1 25 to 1 26
pulled.....do....	33 to 45	red.....do....	1 22 to 1 23
California spring clip, per		Rye.....do....	1 00 to —
pound.....	25 to 37		
California fall clip.....per lb.	18 to 27		

## Market prices of farm-products—Continued.

Articles.	Prices.	Articles.	Prices.
PHILADELPHIA—Continued.		CINCINNATI—Continued.	
Barley.....per bush.	\$1 60 to —	Lard.....per lb.	\$0 13½ to \$0 14½
Corn.....do.	80 to \$0 84	Butter, choice.....do.	28 to 30
Oats.....do.	62 to 69	prime.....do.	24 to 25
Hay, baled, prime.....per ton.	20 00 to 22 00	Cheese, prime to choice factory,	15 to 15½
baled, common to fair ship-		per pound.....do.	8 to 9
ping.....per ton.	19 00 to 20 00	Sugar, New Orleans, fair to good,	
Beef, western mess.....per bbl.	7 00 to 9 00	per pound.....do.	10½ to 12½
extra mess.....do.	8 00 to 9 00	New Orleans, prime to	
Warthman's city family,		choice.....per lb.	9½ to 9½
per barrel.....do.	16 00 to —	Tobacco, lugs.....do.	12 to 25
Pork, mess.....per bbl.	20 00 to 20 50	leaf.....do.	15 to 37½
prime mess.....do.	18 00 to —	Cotton, ordinary to good ordi-	
prime.....do.	19 00 to —	nary.....per lb.	10½ to 12½
Lard.....per lb.	13½ to 18	low middling to good	
Butter, choice middle State.....do.	32 to 44	middling.....per lb.	13 to 14½
choice western.....do.	30 to 32	Wool, fleece, common to fine,	
Cheese, New York factory.....do.	16 to 16½	per pound.....do.	43 to 47
Ohio factory.....do.	15 to 16	tub-washed.....per lb.	48 to 50
Sugar, fair to good refining.....do.	8½ to 8½	unwashed, clothing.....do.	32 to 33
Cotton, ordinary to good ordi-		unwashed, combing.....do.	35 to 38
nary.....per lb.	11½ to 13½	pulled.....do.	35 to 38
low middling to good			
middling.....per lb.	13½ to 14½		
Wool, Ohio X and XX.....do.	52 to 58		
other western.....do.	— to 56		
tub-washed.....do.	55 to 62½		
pulled.....do.	43 to 52½		
combing.....do.	65 to 68		
BALTIMORE.		CHICAGO.	
Flour, superfine.....per bbl.	4 00 to 4 50	Flour, choice winter extras, per	
extra.....do.	4 75 to 6 00	barrel.....do.	5 25 to 6 50
family and fancy.....do.	5 50 to 8 50	common to good.....per bbl.	4 25 to 5 00
Wheat, red.....per bushel.	1 15 to 1 28	choice spring extras.....do.	4 40 to 4 60
amber.....do.	1 15 to 1 35	patent spring.....do.	6 00 to 10 00
white.....do.	1 20 to 1 35	spring superfines.....do.	3 00 to 3 75
Rye.....do.	97 to 1 00	Wheat, No. 1 spring.....per bush.	93½ to 93½
Oats.....do.	63 to 65	No. 2 spring.....do.	90½ to 90½
Corn.....do.	78 to 85	No. 3 spring.....do.	84½ to 84½
Hay, Maryland and Pennsylvan-		Rye, No. 2.....do.	98 to 99
ia.....per ton.	15 00 to 20 00	Barley, No. 2.....do.	1 24 to 1 28½
Pork, mess.....per bbl.	20 50 to —	Corn, No. 2.....do.	61 to 62½
extra prime.....do.	17 00 to —	Oats, No. 2.....do.	52½ to 52½
Lard.....per lb.	14½ to —	Hay, timothy.....per ton.	15 00 to 18 50
Butter, western.....do.	18 to 35	prairie.....do.	11 50 to 12 50
eastern.....do.	22 to 40	Beef, mess.....per bbl.	8 25 to —
Cheese, western factory.....do.	14½ to 15½	extra mess.....do.	9 25 to —
eastern factory.....do.	15 to 16½	Pork, mess.....do.	19 05 to 19 12½
Sugar, fair to good refining.....do.	7½ to 8½	prime mess.....do.	16 75 to 17 00
New Orleans, grocery		extra prime.....do.	14 00 to 14 50
grades.....per lb.	7½ to 8½	Lard.....per cental.	13 10 to —
Tobacco, lugs.....per cental.	6 00 to 11 50	Butter, choice to fancy.....per lb.	30 to 37
common to medium leaf,		medium to good.....do.	24 to 27
per cental.....do.	8 50 to 14 50	Cheese, prime factory.....do.	14½ to 15½
Cotton, ordinary to good ordi-		good.....do.	14 to 14½
nary.....per lb.	— to 13½	Sugar, N. O., common to choice	
low middling to mid-		per pound.....do.	7 to 9
dling.....per lb.	13½ to 14	Wool, tub-washed.....per lb.	45 to 57
Wool, unwashed.....do.	34 to 36	fleece-washed.....do.	40 to 48
washed.....do.	50 to 55	unwashed.....do.	27 to 36
		pulled.....do.	42 to 47
CINCINNATI.		SAINT LOUIS.	
Flour, superfine.....per bbl.	3 75 to 4 10	Flour, winter, common to choice,	
extra.....do.	4 70 to 4 90	per bbl.....do.	4 00 to 7 00
family.....do.	4 90 to 5 10	spring.....per bbl.	4 00 to 5 50
Wheat, winter, red.....per bush.	1 07 to 1 10	Wheat, white winter.....per bush.	83 to 1 08
hill, (amber).....do.	1 12 to 1 14	red winter.....do.	95 to 1 06
white.....do.	1 14 to 1 22	spring.....do.	85 to 90
Rye.....per bush.	1 09 to 1 10	Corn.....do.	64 to 74
Barley.....do.	1 25 to 1 48	Rye.....do.	90 to 97
Corn.....do.	70 to 71	Barley.....do.	1 00 to 1 50
Oats.....do.	59 to 63	Oats.....do.	55 to 62
Hay, baled, No. 1.....per ton.	20 00 to 21 00	Hay, timothy.....per ton.	19 00 to 22 00
lower grades.....do.	14 00 to 19 00	prairie.....do.	12 00 to 16 00
Beef, plate.....per bbl.	— to —	Beef, mess.....per bbl.	14 00 to 15 00
Pork, mess.....do.	19 00 to 19 25	Pork, mess.....do.	19 25 to 19 75
		Lard.....per lb.	12 to 14
		Butter, prime to choice dairy,	
		per pound.....do.	30 to 33
		prime to choice country	
		packed.....per lb.	25 to 29
		Cheese, Ohio factory.....do.	13 to 13½



## Market-prices of farm-products—Continued.

Articles.	Prices.	Articles.	Prices.
SAINT LOUIS—Continued.		NEW ORLEANS—Continued.	
Cheese, N. Y. factory.....per lb	\$0 13 to \$0 13½	Cotton, ordinary to good ordi-	\$0 11½ to \$0 13½
Wool, tub-washed.....do...	50 to 54	nary.....per lb.	
fleece-washed.....do...	32 to 52	low middling to good	14½ to 17½
unwashed.....do...	28 to 36	middling.....per lb.	
NEW ORLEANS.		Wool, lake and fall clip... do...	25 to —
Flour, superfine.....per bbl.	5 00 to —	SAN FRANCISCO.	
extra.....do...	5 25 to 5 62½	Flour, superfine.....per bbl.	3 90 to 4 30
choice to fancy.....do...	5 75 to 6 75	extra.....do...	4 50 to —
Corn, white,.....per bush.	92 to 93	family and fancy.....do...	4 75 to 5 12½
yellow.....do...	90 to —	Wheat, California.....per cental.	1 40 to 1 60
Oats.....do...	72 to 73	Oregon.....do...	1 40 to 1 55
Hay, choice.....per ton.	— to —	Barley.....do...	1 20 to 1 50
prime.....do...	24 00 to —	Oats.....do...	1 45 to 1 75
Beef, Texas.....per bbl.	11 20 to —	Corn, white.....do...	1 40 to 1 45
western.....do...	11 00 to 15 50	yellow.....do...	1 30 to 1 35
Fulton market...per ¼ bbl.	11 50 to —	Hay, State.....per ton.	12 00 to 16 00
Pork, mess.....do...	20 00 to 21 00	Beef, mess.....per bbl.	8 00 to 9 00
Lard.....do...	12½ to 14½	family mess.....per ¼ bbl.	6 50 to 8 00
Butter, choice Goshen.....do...	43 to —	Pork, mess.....per bbl.	23 00 to 24 00
choice western.....do...	30 to 32	prime mess.....do...	17 50 to 20 00
Cheese, choice western factory,		Lard.....per lb.	13 to 15
per pound.....do...	16 to 16½	Butter, overland.....do...	25 to 40
N. Y. cream.....per lb.	18 to —	California.....do...	25 to 50
Sugar, fair to fully fair.....do...	6½ to 7½	Oregon.....do...	20 to 35
prime to strictly prime,		Cheese.....do...	12½ to 16
per pound.....do...	7½ to 8½	Wool, native.....do...	12 to 20
clarified, white, and yellow		California.....do...	15 to 22
low.....per lb.	8½ to 9½	Oregon.....do...	18 to 22

## LIVE-STOCK MARKETS.

NEW YORK.		CHICAGO—Continued.	
Cattle, extra beeves...per cental.	\$13 75 to \$14 00	Cattle, choice beeves, 1,200 to 1,400 pounds, per cental.	\$5 75 to \$6 25
good to prime.....do...	11 50 to 13 50	good beeves, 1,000 to 1,250 pounds.....per cental.	5 25 to 5 70
common to fair.....do...	9 00 to 11 90	medium to fair.....do...	3 75 to 5 25
Texas & Cherokees.....do...	8 50 to 10 50	Texans, corn-fed... do...	4 00 to 5 00
milk-cows.....per head.	40 00 to 80 00	Texans, through-droves, per cental.	1 75 to 4 00
veal-calves.....per cental.	7 00 to 10 50	Sheep.....per cental.	3 00 to 6 50
Sheep, fair to extra.....do...	6 00 to 7 50	Swine.....do...	6 25 to 7 25
Swine.....do...	7 50 to 8 00	SAINT LOUIS.	
PHILADELPHIA.		Cattle, fair to choice native steers, per cental.....	4 75 to 6 00
Cattle, prime beeves...per cental.	7 75 to 8 25	common to fair natives, per cental.....	3 25 to 4 50
fair to good.....do...	6 00 to 7 50	inferior to common, per cental.....	2 00 to 3 50
common.....do...	4 00 to 5 75	Texans, fair to choice, per cental.....	2 50 to 3 75
Sheep.....do...	5 00 to 8 00	Sheep.....per cental.	2 25 to 4 75
Swine, corn-fed.....do...	9 75 to 10 75	Swine.....do...	4 00 to 6 90
BALTIMORE.		Horses, plugs.....per head.	40 00 to 75 00
Cattle, best beeves...per cental.	5 50 to 7 12	plain.....do...	80 00 to 110 00
first quality.....do...	4 37 to 5 50	street-car, heavy.....do...	75 00 to 125 00
medium.....do...	3 75 to 4 75	heavy-draught.....do...	130 00 to 170 00
ordinary.....do...	3 00 to 3 75	good drivers.....do...	100 00 to 150 00
general average.....do...	4 62 to —	extra.....do...	175 00 to 180 00
most of the sales.....do...	4 25 to 5 50	Mules, 14 to 15 hands high.....do...	75 00 to 120 00
milk-cows.....per head.	30 00 to 45 00	15 to 16 hands high.....do...	120 00 to 180 00
Sheep.....per cental.	2 25 to 6 50	extra.....do...	175 00 to 200 00
Swine.....do...	9 00 to 9 75	NEW ORLEANS.	
CINCINNATI.		Cattle, Texas beeves, choice, per head.....	40 00 to 46 00
Cattle, good to choice butchers' steers.....per cental.	4 75 to 6 00	first quality.....per head.	30 00 to 35 00
medium to fair.....do...	3 50 to 4 50	second quality.....do...	20 00 to 25 00
common.....do...	2 50 to 3 25	western beeves, per cental.	4 00 to 6 00
milk-cows.....per head.	30 00 to 50 00	milk-cows.....per head.	35 00 to 100 00
veal-calves.....per cental.	3 50 to 5 50	calves.....do...	7 00 to 9 00
Sheep, common to extra.....do...	4 00 to 6 00	Sheep, first quality.....do...	4 00 to 5 00
Swine, good to choice.....do...	7 45 to 7 65	second quality.....do...	3 00 to 4 00
fair to medium.....do...	7 15 to 7 40	Swine.....per cental.	5 00 to 7 50
CHICAGO.			
Cattle, extra-graded steers, averaging 1,500 pounds, per cental.	6 50 to 7 35		

## FOREIGN MARKETS.

**WHEAT.**—The weather in the wheat-growing regions of Europe threatened a winter of a fluctuating and injurious character, but it subsequently developed a tendency to severe cold. This, however, has been partially moderated, and the weather, though seasonable, has not been extreme. A very considerable rainfall has ameliorated the autumnal drought, giving more promise to the growing crops. The wheat region around Odessa had suffered to such an extent that all hopes of a fair crop had been surrendered, but subsequently the rain fell copiously, followed by snow. Yet this favorable change, prognosticating a good yield, did not induce holders of grain to sell, but rather to hold on till spring, in hope of better rates. British farmers, generally with good fall sowings, were inclined to take the same view of the situation and to act accordingly. These facts have checked the downward tendency of the wheat market, and had, by the middle of December, produced a slight re-action, which, however, has not shown a very permanent character, though the confidence in better prices seems to be buoyant in many quarters, especially in Odessa. In Holland and some parts of Germany the markets were at once active and steady, but in Belgium and France there was a tendency to inaction.

During the second week in December, the sales of English wheat, noted by the Mark Lane Express, amounted to 64,783 quarters, at 44s. 8d., against 62,380 quarters, at 61s. 6d., during the corresponding week of 1873. The London averages were 46s. 4d., on 2,998 quarters. The week opened on a moderate supply of English wheat, with reduced foreign arrivals, almost all from America. There was moderate inquiry, and transactions fully equaled the prices of the previous week. In Mark Lane, London, Essex, and Kent, white brought from 45s. to 50s. per quarter; ditto, red, 42s. to 46s.; Norfolk, Lincolnshire, and Yorkshire, red, 42s. to 46.; Dantzic, mixed, 50s. to 58s.; Königsberg, 47s. to 57s.; Rostock, 47s. to 50s.; Silesian, red, 46s. to 48s.; ditto, white, 49s. to 51s.; Pomeranian, Mecklenberg, and Uckermark, 45s. to 49s.; Ghirka, 42s. to 43s.; Russian, hard, 40s. to 44s.; Saxonska, 45s. to 47s.; Danish and Holstein, red, 41s. to 51s.; American, 42s. to 46s.; Chilian, white, 51s.; Californian, 52s.; Australian, 52s. to 55s. In Liverpool, Canadian, white, is quoted at 9s. 10d. to 10s. 4d.; American, white, 9s. 10d. to 10s. 4d.; ditto, red winter, 9s. 5d. to 9s. 10d.; No. 1, spring, 9s. 2d. to 9s. 9d.; No. 2, spring, 8s. 8d. to 8s. 6d.; average Saidi, 8s. 3d. to 8s. 6d.; California, average, 9s. 10d. to 10s. 3d.; Oregon, 10s. 6d. to 10s. 8d.; Chilian, 9s. 3d. to 9s. 6d. In Paris the trade was calm, with unchanged prices. White brought 42s. 6d. to 47s. per quarter; red, 41s. to 45s. 6d., the market closing heavily. The French country markets showed a disposition to recede. The heavy rains had rendered the roads in Algeria unfit for transportation, hence the supplies were short. The Baltic, being frozen in a large portion of its surface, had stopped the movement from Russia to the western markets, except by rail. The general tone of the market was against sellers.

**FLOUR.**—The recent rains upon the European continent had raised the streams, and again set in motion the mills which had stopped running, especially in France. This caused a sudden increase in the supplies of flour, which caused some stagnation in the market. There was at the opening of the second week in December, in Mark Lane, a good supply of country flour, with a fair amount of foreign arrivals, mostly American, in barrels. An increased demand had stiffened up prices,

which were fully maintained. In Mark Lane the best town households brought 36s. to 43s. per quarter; best country households, 32s. to 33s.; Norfolk and Suffolk, 29s. to 31s. In Liverpool English and Irish superfines brought 33s. to 36s. per 280 pounds; extra, 38s. to 42s.; French, 37s. to 47s.; Trieste, 48s. to 60s.; Spanish, 38s. to 39s.; Chilian, 31s. 6d. to 36s.; Californian, 37s. to 38s.; American western and extra, per barrel, 22s. to 24s.; Baltimore and Philadelphia, 22s. to 24s.; Ohio and extra, 23s. to 28s. 6d.; Canadian, 22s. to 23s. 6d.; ditto, extra, 24s. to 27s. In Paris the market was dull at 32s. 8d. to 35s. 3d. per 280 pounds.

MAIZE.—The supply in Mark Lane was short at the opening of the second week in December, and prices were higher. White was quoted at 40s. to 42s. per quarter; yellow, 37s. to 40s. In Liverpool, American, new and old, brought 39s. 6d. to 40s.; Galatz, 41s. to 42s.



